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ABSTRACT

The second of a two-volume report focuses on accessibility laws for the physically handicapped in New Jersey, Connecticut, and Pennsylvania. The introductory section covers architectural standards developed by the American National Standards Institute and reviews pertinent federal legislation. Diagrams and illustrations are used to examine regulations and legislation in New Jersey, Connecticut, and Pennsylvania. (CI)

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BARRIER-FREE DESIGN:

THE LAW

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

Volume II

1978

EC113680

FOREWORD

Accessibility for the handicapped to new and substantially renovated buildings and facilities is now granted by legislation on all levels of government. The enforcement of such accessibility laws still, however, remains a problem since most of these laws have weak compliance provisions, or none at all. Thus, this second volume of BARRIER-FREE DESIGN: THE LAW is presented to foster the enforcement of accessibility laws in New Jersey, Connecticut and Pennsylvania. We have also included Federal law and regulations, applicable to the accessibility of Federal facilities within these states.

This document is not intended primarily for physically handicapped individuals and groups; rather, it is directed toward architects and engineers involved with building design, and building officials and inspectors responsible for code implementation and enforcement. The purpose is to encourage compliance with building code rules for the handicapped by simplified explanation, preferred design recommendation and illustration. Also, this volume is designed for updating compatibility as amendments are promulgated within the jurisdictions mentioned above.

The Eastern Paralyzed Veterans Association is well qualified to carry out the service embodied in this document. Eastern Paralyzed Veterans Association is a non-profit, non-sectarian, interracial organization of veterans who have incurrred an injury or disease of the spinal cord resulting in permanent paralysis and lifelong confinement to a wheelchair. While EPVA's primary goal is service to its members, the organization is also deeply committed to service to the community, disabled and non-disabled alike. It was precisely this commitment which inspired EPVA representatives to become involved as consultants in the law-making process which produced many of the provisions discussed herein. Since our expertise in building design for the physically handicapped helped to bring about a good number of these rules, EPVA feels a deep responsibility to see to it that their enforcement is achieved with complete consistency.

We have retained completely the precise wording of laws, regulations, and code provisions. Our own additions include concise explanation of laws and provisions which are vague or difficultly worded; the use of illustrations to point out minimum requirements; and recommendations to encourage maximum accessibility and usability of facilities. We have not attempted to find a law or provision where one does not exist. However, we do suggest maximum access and use of all new or substantially renovated facilities for the disabled because barrier-free designed structures are easier to use for all persons: for those who are temporarily disabled, for the elderly, for those with heart conditions, for those with baby carriages, for pregnant women, for those making deliveries, etc. One of the myths we hope to dispel is that barrier-free design means costly, special facilities for the disabled. It does not. Barrier-free design means constructing facilities so that they are usable to all persons.

The Eastern Paralyzed Veterans Association has produced this work so that it can be updated when necessary. Holders of this book will receive updates automatically from time to time. There is a good reason for this procedure. Groups of the disabled such as ours recognize the need for change in current building law and regulation which is weak, unenforceable, and simply not restrictive enough. We hope to be involved along the way in producing such needed changes. In the interim, we offer BARRIER-FREE DESIGN: THE LAW to the architect, the engineer and the building inspector in an effort to increase compliance with existing law. We hope that its use will inspire disabled and non-disabled alike to seek the broadest range of building use and access for all citizens.

ANSI
A117.1-1961
(Reaffirmed 1971)

American National Standard Specifications for Making Buildings and Facilities Accessible to, and Usable by, The Physically Handicapped

Secretariat

National Society for Crippled Children and Adults
The President's Committee on Employment of the Physically Handicapped

Approved October 31, 1961

American National Standards Institute, Inc

American National Standard

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Foreword

(This Foreword is not a part of American Standard Specifications for Making Buildings and Facilities Accessible to, and Usable by, the Physically Handicapped, A117.1-1961.)

Approximately one out of seven people in our nation has a permanent physical disability. This segment of our population represents human resources of inestimable value and is of great economic significance to the entire nation.

The most common design and construction of buildings and facilities cause problems for the physically handicapped that lessen the social and economic gains now evident in the rehabilitation of these individuals. These architectural barriers make it very difficult to project the physically handicapped into normal situations of education, recreation, and employment.

In May, 1959, the ASA, acting on the request of The President's Committee on Employment of the Physically Handicapped, called a general conference of those groups vitally interested in the problem. This conference recommended the initiation of a project, and this recommendation was subsequently approved by the Construction Standards Board. The President's Committee on Employment of the Physically Handicapped and the National Society for Crippled Children and Adults were designated as co-sponsors, and the latter agreed to assume the secretariat.

This standard supplements other American Standards relating to various aspects of buildings and facilities. Its specifications, which are the result of extended and careful consideration of available knowledge and experience on this subject, are intended to present minimum requirements. They are recommended for use in the construction of all buildings and facilities and for adoption and enforcement by administrative authorities, so that those individuals with permanent physical disabilities might pursue their interests and aspirations, develop their talents, and exercise their skills.

The ASA Sectional Committee on Facilities in Public Buildings for Persons with Physical Handicaps, A117, which developed this standard, had the following personnel at the time of approval.

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Contents

Section		Page
1.	Scope and Purpose	6
	1.1 Scope	6
	1.2 Purpose	6
2.	Definitions	6
	2.1 Non-ambulatory Disabilities	6
	2.2 Semi-ambulatory Disabilities	6
	2.3 Sight Disabilities	6
	2.4 Hearing Disabilities	6
	2.5 Disabilities of Incoordination	6
	2.6 Aging	6
	2.7 Standard	6
	2.8 Fixed Turning Radius, Wheel to Wheel	6
	2.9 Fixed Turning Radius, Front Structure to Rear Structure	6
	2.10 Involved (Involvement)	6
	2.11 Ramps, Ramps with Gradients	6
	2.12 Walk, Walks	6
	2.13 Appropriate Number	7
3.	General Principles and Considerations	7
	3.1 Wheelchair Specifications	7
	3.2 The Functioning of a Wheelchair	7
	3.3 The Adult Individual Functioning in a Wheelchair	7
	3.4 The Individual Functioning on Crutches	7
4.	Site Development	7
	4.1 Grading	7
	4.2 Walks	8
	4.3 Parking Lots	8
5.	Buildings	8
	5.1 Ramps with Gradients	8
	5.2 Entrances	9
	5.3 Doors and Doorways	9
	5.4 Stairs	9
	5.5 Floors	9
	5.6 Toilet Rooms	10
	5.7 Water Fountains	10
	5.8 Public Telephones	10
	5.9 Elevators	10
	5.10 Controls	10
	5.11 Identification	11
	5.12 Warning Signals	11
	5.13 Hazards	11

Figures

	Fig. 1 Steps	9
	Fig. 2 Knurled Door Handles and Knobs	11

Standard Specifications for

Making Buildings and Facilities Accessible to, and Usable by, the Physically Handicapped

1. Scope and Purpose

1.1 Scope

1.1.1 This standard applies to all buildings and facilities used by the public. It applies to temporary or emergency conditions as well as permanent conditions. It does not apply to private residences.

1.1.2 This standard is concerned with non-ambulatory disabilities, semi-ambulatory disabilities, sight disabilities, hearing disabilities, disabilities of incoordination, and aging.[1]

1.2 Purpose. This standard is intended to make all buildings and facilities used by the public accessible to, and functional for, the physically handicapped, to, through, and within their doors, without loss of function, space, or facility where the general public is concerned. It supplements existing American Standards, and reflects great concern for safety of life and limb. In cases of practical difficulty, unnecessary hardship, or extreme differences, administrative authorities may grant exceptions from the literal requirements of this standard or permit the use of other methods or materials, but only when it is clearly evident that equivalent facilitation and protection are thereby secured.

2. Definitions

2.1 Non-ambulatory Disabilities. Impairments that, regardless of cause or manifestation, for all practical purposes, confine individuals to wheelchairs.

2.2 Semi-ambulatory Disabilities. Impairments that cause individuals to walk with difficulty or insecurity. Individuals using braces or crutches, amputees, arthritics, spastics, and those with pulmonary and cardiac ills may be semi-ambulatory.

2.3 Sight Disabilities. Total blindness or impairments affecting sight to the extent that the individual functioning in public areas is insecure or exposed to danger.

2.4 Hearing Disabilities. Deafness or hearing handicaps that might make an individual insecure in public areas because he is unable to communicate or hear warning signals.

[1] See definitions in Section 2.

2.5 Disabilities of Incoordination. Faulty coordination or palsy from brain, spinal, or peripheral nerve injury.

2.6 Aging. Those manifestations of the aging processes that significantly reduce mobility, flexibility, coordination, and perceptiveness but are not accounted for in the aforementioned categories.

2.7 Standard. When this term appears in small letters and is not preceded by the word "American," it is descriptive and does not refer to an American Standard approved by ASA; for example, a "standard" wheelchair is one characterized as standard by the manufacturers.

2.8 Fixed Turning Radius, Wheel to Wheel. The tracking of the caster wheels and large wheels of a wheelchair when pivoting on a spot.

2.9 Fixed Turning Radius, Front Structure to Rear Structure. The turning radius of a wheelchair, left front-foot platform to right rear wheel, or right front-foot platform to left rear wheel, when pivoting on a spot.

2.10 Involved (Involvement). A portion or portions of the human anatomy or physiology, or both, that have a loss or impairment of normal function as a result of genesis, trauma, disease, inflammation, or degeneration.

2.11 Ramps, Ramps with Gradients. Because the term "ramp" has a multitude of meanings and uses, its use in this text is clearly defined as ramps with gradients (or ramps with slopes) that deviate from what would otherwise be considered the normal level. An exterior ramp, as distinguished from a "walk," would be considered an appendage to a building leading to a level above or below existing ground level. As such, a ramp shall meet certain requirements similar to those imposed upon stairs.

2.12 Walk, Walks. Because the terms "walk" and "walks" have a multitude of meanings and uses, their use in this text is clearly defined as a predetermined, prepared-surface, exterior pathway leading to or from a building or facility, or from one exterior area to another, placed on the existing ground level

and not deviating from the level of the existing ground immediately adjacent.

2.13 Appropriate Number. As used in this text, appropriate number means the number of a specific item that would be necessary, in accord with the purpose and function of a building or facility, to accommodate individuals with specific disabilities in proportion to the anticipated number of individuals with disabilities who would use a particular building or facility.

EXAMPLE: Although these specifications shall apply to all buildings and facilities used by the public, the numerical need for a specific item would differ, for example, between a major transportation terminal, where many individuals with diverse disabilities would be continually coming and going, an office building or factory, where varying numbers of individuals with disabilities of varying manifestations (in many instances, very large numbers) might be employed or have reason for frequent visits, a school or church, where the number of individuals may be fixed and activities more definitive, and the many other buildings and facilities dedicated to specific functions and purposes.

NOTE: Disabilities are specific and where the individual has been properly evaluated and properly oriented and where architectural barriers have been eliminated, a specific disability does not constitute a handicap. It should be emphasized that more and more of those physically disabled are becoming *participants*, rather than spectators, in the fullest meaning of the word.

3. General Principles and Considerations

3.1 Wheelchair Specifications. The collapsible-model wheelchair of tubular metal construction with plastic upholstery for back and seat is most commonly used. The standard model of all manufacturers falls within the following limits, which were used as the basis of consideration:

(1) Length: 42 inches
(2) Width, when open: 25 inches
(3) Height of seat from floor: 19½ inches
(4) Height of armrest from floor: 29 inches
(5) Height of pusher handles (rear) from floor: 36 inches
(6) Width, when collapsed: 11 inches

3.2 The Functioning of a Wheelchair

3.2.1 The fixed turning radius of a standard wheelchair, wheel to wheel, is 18 inches. The fixed turning radius, front structure to rear structure, is 31.5 inches.

3.2.2 The average turning space required (180 and 360 degrees) is 60 x 60 inches.

NOTE: Actually, a turning space that is longer than it is wide, specifically, 63 x 56 inches, is more workable and desirable. In an area with two open ends, such as might be the case in a corridor, a minimum of 54 inches between two walls would permit a 360-degree turn.

3.2.3 A minimum width of 60 inches is required for two individuals in wheelchairs to pass each other.

3.3 The Adult Individual Functioning in a Wheelchair[2]

3.3.1 The average unilateral vertical reach is 60 inches and ranges from 54 inches to 78 inches.

3.3.2 The average horizontal working (table) reach is 30.8 inches and ranges from 28.5 inches to 33.2 inches.

3.3.3 The bilateral horizontal reach, both arms extended to each side, shoulder high, ranges from 54 inches to 71 inches and averages 64.5 inches.

3.3.4 An individual reaching diagonally, as would be required in using a wall-mounted dial telephone or towel dispenser, would make the average reach (on the wall) 48 inches from the floor.

3.4 The Individual Functioning on Crutches[3]

3.4.1 On the average, individuals 5 feet 6 inches tall require an average of 31 inches between crutch tips in the normally accepted gaits.[4]

3.4.2 On the average, individuals 6 feet 0 inches tall require an average of 32.5 inches between crutch tips in the normally accepted gaits.[4]

4. Site Development[5]

4.1 Grading. The grading of ground, even contrary to existing topography, so that it attains a level with a normal entrance will make a facility accessible to individuals with physical disabilities.

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[2] Extremely small, large, strong, or weak and involved individuals could fall outside the ranges in 3.3.1, 3.3.2, 3.3.3, and their reach could differ from the figure given in 3.3.4. However, these reaches were determined using a large number of individuals who were functionally trained, with a wide range in individual size and involvement.

[3] Most individuals ambulating on braces or crutches, or both, or on canes are able to manipulate within the specifications prescribed for wheelchairs, although doors present quite a problem at times. However, attention is called to the fact that a crutch tip extending laterally from an individual is not obvious to others in heavily trafficked areas, certainly not as obvious or protective as a wheelchair and is, therefore, a source of vulnerability.

[4] Some cerebral palsied individuals, and some severe arthritics, would be extreme exceptions to 3.4.1 and 3.4.2.

[5] Site development is the most effective means to resolve the problems created by topography, definitive architectural designs or concepts, water table, existing streets, and atypical problems, singularly or collectively, so that aggress, ingress, and egress to buildings by physically disabled can be facilitated while preserving the desired design and effect of the architecture.

4.2 Walks

4.2.1 Public walks should be at least 48 inches wide and should have a gradient not greater than 5 percent.[6]

4.2.2 Such walks shall be of a continuing common surface, not interrupted by steps or abrupt changes in level.

4.2.3 Wherever walks cross other walks, driveways, or parking lots they should blend to a common level.[7]

NOTE: 4.1 and 4.2, separately or collectively, are greatly aided by terracing, retaining walls, and winding walks allowing for more gradual incline, thereby making almost any building accessible to individuals with permanent physical disabilities, while contributing to its esthetic qualities.

4.2.4 A walk shall have a level platform at the top which is at least 5 feet by 5 feet, if a door swings out onto the platform or toward the walk. This platform shall extend at least 1 foot beyond each side of the doorway.

4.2.5 A walk shall have a level platform at least 3 feet deep and 5 feet wide, if the door does not swing onto the platform or toward the walk. This platform shall extend at least 1 foot beyond each side of the doorway.

4.3 Parking Lots

4.3.1 Spaces that are accessible and approximate to the facility should be set aside and identified for use by individuals with physical disabilities.

4.3.2 A parking space open on one side, allowing room for individuals in wheelchairs or individuals on braces and crutches to get in and out of an automobile onto a level surface, suitable for wheeling and walking, is adequate.

4.3.3 Parking spaces for individuals with physical disabilities when placed between two conventional diagonal or head-on parking spaces should be 12 feet wide.

4.3.4 Care in planning should be exercised so that individuals in wheelchairs and individuals using braces and crutches are not compelled to wheel or walk behind parked cars.

4.3.5 Consideration should be given the distribution of spaces for use by the disabled in accordance with the frequency and persistency of parking needs.

4.3.6 Walks shall be in conformity with 4.2.

5. Buildings

5.1 Ramps with Gradients. Where ramps with gradients are necessary or desired, they shall conform to the following specifications:

5.1.1 A ramp shall not have a slope greater than 1 foot rise in 12 feet, or 8.33 percent, or 4 degrees 50 minutes.

5.1.2 A ramp shall have handrails on at least one side, and preferably two sides, that are 32 inches in height, measured from the surface of the ramp, that are smooth, that extend 1 foot beyond the top and bottom of the ramp, and that otherwise conform with American Standard Safety Code for Floor and Wall Openings, Railings, and Toe Boards, A12-1932.

NOTE 1: Where codes specify handrails to be of heights other than 32 inches, it is recommended that two sets of handrails be installed to serve all people. Where major traffic is predominantly children, particularly physically disabled children, extra care should be exercised in the placement of handrails, in accordance with the nature of the facility and the age group or groups being serviced.

NOTE 2: Care should be taken that the extension of the handrail is not in itself a hazard. The extension may be made on the side of a continuing wall.

5.1.3 A ramp shall have a surface that is nonslip.

5.1.4 A ramp shall have a level platform at the top which is at least 5 feet by 5 feet, if a door swings out onto the platform or toward the ramp. This platform shall extend at least 1 foot beyond each side of the doorway.

5.1.5 A ramp shall have a level platform at least 3 feet deep and 5 feet wide, if the door does not swing onto the platform or toward the ramp. This platform shall extend at least 1 foot beyond each side of the doorway.

5.1.6 Each ramp shall have at least 6 feet of straight clearance at the bottom.

5.1.7 Ramps shall have level platforms at 30-foot intervals for purposes of rest and safety and shall have level platforms wherever they turn.

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[6] It is essential that the gradient of walks and driveways be less than that prescribed for ramps, since walks would be void of handrails and curbs and would be considerably longer and more vulnerable to the elements. Walks of near maximum grade and considerable length should have level areas at intervals for purposes of rest and safety. Walks or driveways should have a nonslip surface.

[7] This specification does not require the elimination of curbs, which, particularly if they occur at regular intersections, are a distinct safety feature for all of the handicapped, particularly the blind. The preferred method of meeting the specification is to have the walk incline to the level of the street. However, at principal intersections, it is vitally important that the curb run parallel to the street, up to the point where the walk is inclined, at which point the curb would turn in and gradually meet the level of the walk at its highest point. A less preferred method would be to gradually bring the surface of the driveway or street to the level of the walk. The disadvantage of this method is that a blind person would not know when he has left the protection of a walk and entered the hazards of a street or driveway.

5.2 Entrances

5.2.1 At least one primary entrance to each building shall be usable by individuals in wheelchairs.

NOTE: Because entrances also serve as exits, some being particularly important in case of an emergency, and because the proximity of such exits to all parts of buildings and facilities, in accordance with their design and function, is essential (see 112 and 2000 through 2031 of American Standard Building Exits Code, A9.1-1953) it is preferable that all or most entrances (exits) should be accessible to, and usable by, individuals in wheelchairs and individuals with other forms of physical disability herein applicable.

5.2.2 At least one entrance usable by individuals in wheelchairs shall be on a level that would make the elevators accessible.

5.3 Doors and Doorways

5.3.1 Doors shall have a clear opening of no less than 32 inches when open and shall be operable by a single effort.

NOTE 1: Two-leaf doors are not usable by those with disabilities defined in 2.1, 2.2, and 2.5 unless they operate by a single effort, or unless one of the two leaves meets the requirement of 5.3.1.

NOTE 2: It is recommended that all doors have kick plates extending from the bottom of the door to at least 16 inches from the floor, or be made of a material and finish that would safely withstand the abuse they might receive from canes, crutches, wheelchair foot-platforms, or wheelchair wheels.

5.3.2 The floor on the inside and outside of each doorway shall be level for a distance of 5 feet from the door in the direction the door swings and shall extend 1 foot beyond each side of the door.

5.3.3 Sharp inclines and abrupt changes in level shall be avoided at doorsills. As much as possible, thresholds shall be flush with the floor.

NOTE 1: Care should be taken in the selection, placement, and setting of door closers so that they do not prevent the use of doors by the physically disabled. Time-delay door closers are recommended.

NOTE 2: Automatic doors that otherwise conform to 5.3.1, 5.3.2, and 5.3.3 are very satisfactory.

NOTE 3: These specifications apply both to exterior and interior doors and doorways.

5.4 Stairs. Stairs shall conform to American Standard A9.1-1953, with the following additional considerations:

5.4.1 Steps in stairs that might require use by those with disabilities defined in 2.2 and 2.5 or by the aged shall not have abrupt (square) nosing. (See Fig. 1.)

NOTE: Individuals with restrictions in the knee, ankle, or hip, with artificial legs, long leg braces, or comparable conditions cannot, without great difficulty and hazard, use steps with nosing as illustrated in Fig. 1a, but can safely and with minimum difficulty use steps with nosing as illustrated in Fig. 1b.

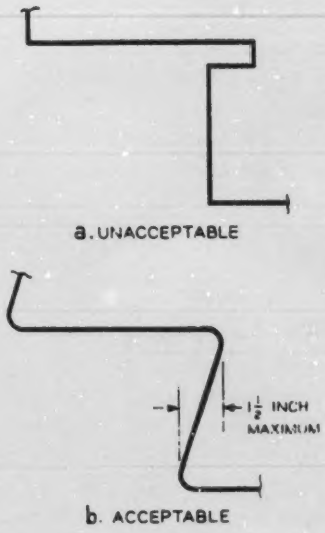


Fig. 1
Steps

5.4.2 Stairs shall have handrails 32 inches high as measured from the tread at the face of the riser.

NOTE: Where codes specify handrails to be at heights other than 32 inches, it is recommended that two sets of handrails be installed to serve all people. Where traffic is predominantly children, particularly physically disabled children, extra care should be exercised in the placement of handrails in accordance with the nature of the facility and the age group or groups being serviced. Dual handrails may be necessary.

5.4.3 Stairs shall have at least one handrail that extends at least 18 inches beyond the top step and beyond the bottom step.

NOTE: Care should be taken that the extension of the handrails is not in itself a hazard. The extension may be made on the side of a continuing wall.

5.4.4 Steps should, wherever possible, and in conformation with existing step formulas, have risers that do not exceed 7 inches.

5.5 Floors

5.5.1 Floors shall have a surface that is nonslip.

5.5.2 Floors on a given story shall be of a common level throughout or be connected by a ramp in accord with 5.1.1 through 5.1.6, inclusive.

EXAMPLE 1: There shall not be a difference between the level of the floor of a corridor and the level of the floor of the toilet rooms.

EXAMPLE 2: There should not be a difference between the level of the floor of a corridor and the level of a meeting room, dining room, or any other room, unless proper ramps are provided.

5.6 Toilet Rooms. It is essential that an appropriate number[8] of toilet rooms, in accordance with the nature and use of a specific building or facility, be made accessible to, and usable by, the physically handicapped.

5.6.1 Toilet rooms shall have space to allow traffic of individuals in wheelchairs, in accordance with 3.1, 3.2, and 3.3.

5.6.2 Toilet rooms shall have at least one toilet stall that—

(1) Is 3 feet wide

(2) Is at least 4 feet 8 inches, preferably 5 feet, deep

(3) Has a door (where doors are used) that is 32 inches wide and swings out

(4) Has handrails on each side, 33 inches high and parallel to the floor, 1½ inches in outside diameter, with 1½ inches clearance between rail and wall, and fastened securely at ends and center

(5) Has a water closet with the seat 20 inches from the floor

NOTE: The design and mounting of the water closet is of considerable importance. A wall-mounted water closet with a narrow understructure that recedes sharply is most desirable. If a floor-mounted water closet must be used, it should not have a front that is wide and perpendicular to the floor at the front of the seat. The bowl should be shallow at the front of the seat and turn backward more than downward to allow the individual in a wheelchair to get close to the water closet with the seat of the wheelchair.

5.6.3 Toilet rooms shall have lavatories with narrow aprons, which when mounted at standard height are usable by individuals in wheelchairs; or shall have lavatories mounted higher, when particular designs demand, so that they are usable by individuals in wheelchairs.

NOTE: It is important that drain pipes and hot-water pipes under a lavatory be covered or insulated so that a wheelchair individual without sensation will not burn himself.

5.6.4 Some mirrors and shelves shall be provided above lavatories at a height as low as possible and no higher than 40 inches above the floor, measured from the top of the shelf and the bottom of the mirror.

5.6.5 Toilet rooms for men shall have wall-mounted urinals with the opening of the basin 19 inches from the floor, or shall have floor-mounted urinals that are on level with the main floor of the toilet room.

5.6.6 Toilet rooms shall have an appropriate number[8] of towel racks, towel dispensers, and other dispensers and disposal units mounted no higher than 40 inches from the floor.

5.7 Water Fountains. An appropriate number[8] of water fountains or other water-dispensing means shall be accessible to, and usable by, the physically disabled.

5.7.1 Water fountains or coolers shall have up-front spouts and controls.

5.7.2 Water fountains or coolers shall be hand-operated or hand- and foot-operated. (See also American Standard Specifications for Drinking Fountains, Z4.2-1942.)

NOTE 1: Conventional floor-mounted water coolers can be serviceable to individuals in wheelchairs if a small fountain is mounted on the side of the cooler 30 inches above the floor.

NOTE 2: Wall-mounted, hand-operated coolers of the latest design, manufactured by many companies, can serve the able-bodied and the physically disabled equally well when the cooler is mounted with the basin 36 inches from the floor.

NOTE 3: Fully recessed water fountains are not recommended.

NOTE 4: Water fountains should not be set into an alcove unless the alcove is wider than a wheelchair. (See 3.1.)

5.8 Public Telephones. An appropriate number[8] of public telephones should be made accessible to, and usable by, the physically disabled.

NOTE: The conventional public telephone booth is not usable by most physically disabled individuals. There are many ways in which public telephones can be made accessible and usable. It is recommended that architects and builders confer with the telephone company in the planning of the building or facility.

5.8.1 Such telephones should be placed so that the dial and the handset can be reached by individuals in wheelchairs, in accordance with 3.3.

5.8.2 An appropriate number[8] of public telephones should be equipped for those with hearing disabilities and so identified with instructions for use.

NOTE: Such telephones can be used by everyone.

5.9 Elevators. In a multiple-story building, elevators are essential to the successful functioning of physically disabled individuals. They shall conform to the following requirements:

5.9.1 Elevators shall be accessible to, and usable by, the physically disabled on the level that they use to enter the building, and at all levels normally used by the general public.

5.9.2 Elevators shall allow for traffic by wheelchairs, in accordance with 3.1, 3.2, 3.3 and 5.3.

5.10 Controls. Switches and controls for light, heat, ventilation, windows, draperies, fire alarms, and all similar controls of frequent or essential use, shall be placed within the reach of individuals in wheelchairs. (See 3.3.)

[8] See 2.13.

5.11 Identification. Appropriate identification of specific facilities within a building used by the public is particularly essential to the blind.

5.11.1 Raised letters or numbers shall be used to identify rooms or offices.

5.11.2 Such identification should be placed on the wall, to the right or left of the door, at a height between 4 feet 6 inches and 5 feet 6 inches, measured from the floor, and preferably at 5 feet.

5.11.3 Doors that are not intended for normal use, and that might prove dangerous if a blind person were to exit or enter by them, should be made quickly identifiable to the touch by knurling the door handle or knob. (See Fig. 2.)

EXAMPLE: Such doors might lead to loading platforms, boiler rooms, stages, fire escapes, etc.

5.12 Warning Signals

5.12.1 Audible warning signals shall be accompanied by simultaneous visual signals for the benefit of those with hearing disabilities.

5.12.2 Visual signals shall be accompanied by simultaneous audible signals for the benefit of the blind.

5.13 Hazards. Every effort shall be exercised to obviate hazards to individuals with physical disabilities.

5.13.1 Access panels or manholes in floors, walks, and walls can be extremely hazardous, particularly when in use, and should be avoided.

5.13.2 When manholes or access panels are open and in use, or when an open excavation exists on a site, particularly when it is approximate to normal pedestrian traffic, barricades shall be placed on all open sides, at least 8 feet from the hazard, and warning devices shall be installed in accord with 5.12.2.

5.13.3 Low-hanging door closers that remain within the opening of a doorway when the door is open, or that protrude hazardously into regular corridors or traffic ways when the door is closed, shall be avoided.

5.13.4 Low-hanging signs, ceiling lights, and similar objects or signs and fixtures that protrude into regular corridors or traffic ways shall be avoided. A minimum height of 7 feet, measured from the floor, is recommended.

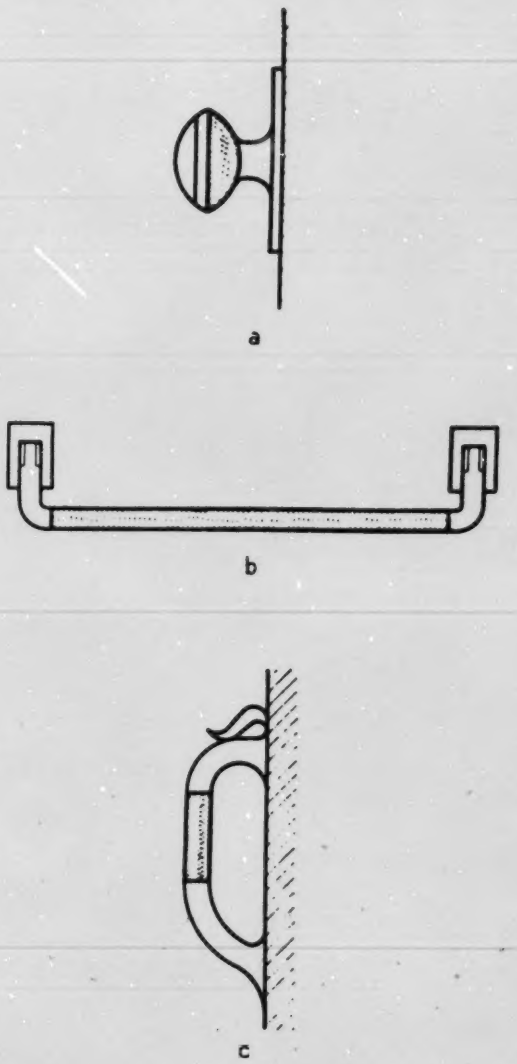


Fig. 2
Knurled Door Handles and Knobs

5.13.5 Lighting on ramps shall be in accord with 1201, 1202, 1203, and 1204 of American Standard A9.1-1953.

5.13.6 Exit signs shall be in accord with 1205 of American Standard A9.1-1953, except as modified by 5.11 of this standard.

Architectural Barriers Act of 1968

Public Law 90-480

August 12, 1968

AN ACT

To insure that certain buildings financed with Federal funds are so designed and constructed as to be accessible to the physically handicapped.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That, as used in this Act, the term "building" means any building or facility (other than (a) a privately owned residential structure and (b) any building or facility on a military installation designed and constructed primarily for use by able bodied military personnel) the intended use for which either will require that such building or facility be accessible to the public, or may result in the employment or residence therein of physically handicapped persons, which building or facility is ---

(1) to be constructed or altered by or on behalf of the United States;

(2) to be leased in whole or in part by the United States after the date of enactment of this Act after construction or alteration in accordance with plans and specifications of the United States; or

(3) to be financed in whole or in part by a grant or a loan made by the United States after the date of enactment of this Act if such building or facility is subject to standards for design, construction, or alteration issued under authority of the law authorizing such grant or loan.

SEC. 2. The Administrator of General Services, in consultation with the Secretary of Health, Education, and Welfare, is authorized to prescribe such standards for the design, construction, and alteration of buildings (other than residential structures subject to this Act and buildings, structures, and facilities of the Department of Defense subject to this Act) as may be necessary to insure that physically handicapped persons will have ready access to, and use of, such buildings.

SEC. 3. The Secretary of Housing and Urban Development, in consultation with the Secretary of Health, Education, and Welfare, is authorized to prescribe such standards for the design, construction, and alteration of buildings which are residential structures subject to this Act as may be necessary to insure that physically handicapped persons will have ready access to, and use of, such buildings.

SEC. 4. The Secretary of Defense, in consultation with the Secretary of Health, Education, and Welfare, is authorized to prescribe such standards for the design, construction, and alteration of buildings, structures, and facilities of the Department of Defense subject to this Act as may be necessary to insure that physically handicapped persons will have access to, and use of such buildings.

SEC. 5. Every building designed, constructed, or altered after the effective date of a standard issued under this Act which is applicable to such building, shall be designed, constructed, or altered in accordance with such standard.

SEC. 6. The administrator of General Services, with respect to standards issued under section 2 of this Act, and the Secretary of Housing and Urban Development, with respect to standards issued under section 3 of this Act, and the Secretary of Defense with respect to standards issued under section 4 of this Act, is authorized ---

(1) to modify or waive any such standards, on a case-by-case basis, upon application made by the head of the department, agency, or instrumentality of the United States concerned, and upon a determination by the Administrator or Secretary, as the case may be, that such modification or waiver is clearly necessary, and

(2) to conduct such surveys and investigations as he deems necessary to insure compliance with such standards.

Public Law 91-205

March 5, 1970

AN ACT

To amend the Act of August 12, 1968, to insure that certain facilities constructed under authority of Federal law are designed and constructed to be accessible to the physically handicapped.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the first section of the Act entitled "An Act to insure that certain buildings financed with Federal funds are so designed and constructed as to be accessible to the physically handicapped", approved August 12, 1968 (42 U.S.C. 4151), is amended –

(1) by striking out "or" at the end of paragraph (2);

(2) by striking out the period at the end of paragraph (3) and inserting in lieu thereof: ";or"; and

(3) by adding at the end thereof the following:

(4) to be constructed under authority of the National Capital Transportation Act of 1960, the National Capital Transportation Act of 1965, or title III of the Washington Metropolitan Area Transit Regulation Compact.

Public Buildings Cooperative Use Act of 1976

Public Law 94–541

October 18, 1976

AN ACT

To amend the Public Buildings Act of 1959 in order to preserve buildings of historical or architectural significance through their use for Federal public building purposes, and to amend the Act of August 12, 1968, relating to the accessibility of certain buildings to the physically handicapped.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

TITLE II

Sec. 201. The Act entitled "An Act to insure that certain buildings financed with Federal funds are so designed and constructed as to be accessible to the physically handicapped", approved August 12, 1968 (42 U.S.C. 4151–4156), is amended as follows:

(1) The first section is amended by inserting after "structure" the following: "not leased by the Government for subsidized housing programs"; and by striking out in paragraph (2) the following: "after construction or alteration in accordance with plans and specifications of the United States".

(2) Section 2 is amended–

(A) by striking out "is authorized to prescribe such" and inserting in lieu thereof "shall prescribe";

(B) by striking out "as may be necessary to insure" and inserting in lieu thereof "to insure whenever possible"; and

(C) by inserting immediately after "Department of Defense" the following: "and of the United States Postal Service".

(3) Section 3 is amended–

(A) by striking out "is authorized to prescribe such" and inserting in lieu thereof "shall prescribe"; and

(B) by striking out "as may be necessary to insure" and inserting in lieu thereof "to insure whenever possible".

(4) Section 4 is amended–

(A) by striking out "is authorized to prescribe such" and inserting in lieu thereof "shall prescribe"; and

(B) by striking out "as may be necessary to insure" and inserting in lieu thereof "to insure whenever possible".

(5) Immediately after section 4 insert the following new section:

"Sec. 4a. The United States Postal Service, in consultation with the Secretary of Health, Education, and Welfare, shall prescribe such standards for the design, construction, and alteration of its buildings to insure whenever possible that physically handicapped persons will have ready access to, and use of, such buildings.".

(6) Section 6 is amended—

(A) by inserting immediately after "section 4 of this Act," the following: "and the United States Postal Service with respect to standards issued under section 4a of this Act";

(B) by striking out "is authorized";

(C) by inserting immediately after "(1)" the following: "is authorized"; and

(D) by striking out all that follows "(2)" and inserting in lieu thereof " shall establish a system of continuing surveys and investigations to insure compliance with such standards.".

(7) By adding at the end thereof the following new section:

"Sec. 7.(a) The Administrator of General Services shall report to Congress during the first week of January of each year on his activities and those of other departments, agencies, and instrumentalities of the Federal Government under this Act during the preceding fiscal year including, but not limited to, standards issued, revised, amended or repealed under this Act and all case-by-case modifications, and waivers of such standards during such year.

"(b) The Architectural and Transportation Barriers Compliance Board established by section 502 of the Rehabilitation Act of 1973 (Public Law 93-112) shall report to the Public Works and Transportation Committee of the House of Representatives and the Public Works Committee of the Senate during the first week of January of each year on its activities and actions to insure compliance with the standards prescribed under this Act.".

Sec. 202. The amendment made by paragraph (1) of section 201 of this Act shall not apply to any lease entered into before January 1, 1977. It shall apply to every lease entered into on or after January 1, 1977, including any renewal of a lease entered into before such date which renewal is on or after such date.

Sec. 203. Section 410(b) of Title 39, United States Code, is amended by adding at the end thereof the following:

"(8) The provisions of the Act of August 12, 1968 (42 U.S.C. 4151–4156.".

Explanation: Title II of Public Law 94-541 brings buildings and facilities under the jurisdiction of the U.S. Postal Service into the realm of compliance with PL 90-480. Moreover, PL 94-541 now makes it obligatory rather than optional, for the Administrator of GSA, the Secretary of HUD, the Secretary of Defense, and the Postal Service to prescribe standards for access and use by disabled. Also, this law now mandates that these Federal department heads must institute ongoing internal Department compliance review systems. This is another provision which was previously only allowed, but now is mandated by law.

ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD

Sec. 502. (a) There is established within the Federal Government the Architectural and Transportation Barriers Compliance Board (hereinafter referred to as the "Board") which shall be composed of the heads of each of the following departments or agencies (or their designees whose positions are Executive Level IV or higher):

(1) Department of Health, Education, and Welfare;
(2) Department of Transportation;
(3) Department of Housing and Urban Development;
(4) Department of Labor;
(5) Department of the Interior;
(6) General Services Administration;
(7) United States Postal Service; and
(8) Veterans' Administration.

(b) It shall be the function of the Board to: (1) insure compliance with the standards prescribed by the General Services Administration, the Department of Defense, and the Department of Housing and Urban Development pursuant to the Architectural Barriers Act of 1968 (Public Law 90-480), as amended by the Act of March 5, 1970 (Public Law 91-205); (2) investigate and examine alternative approaches to the architectural, transportation, and attitudinal barriers confronting handicapped individuals, particularly with respect to public buildings and monuments, parks and parklands, public transportation (including air, water, and surface transportation whether interstate, foreign, intrastate, or local), and residential and institutional housing; (3) determine what measures are being taken by Federal, State, and local governments and by other public or nonprofit agencies to eliminate the barriers described in clause (2) of this subsection; (4) promote the use of the International Accessibility Symbol in all public facilities that are in compliance with the standards prescribed by the Administrator of the General Services Administration, the Secretary of Defense, and the Secretary of Housing and Urban Development pursuant to the Architectural Barriers Act of 1968; (5) make to the President and to Congress reports which shall describe in detail the results to its investigations under clauses (2) and (3) of this subsection; and (6) make to the President and to the Congress such recommendations for legislation and administration as it deems necessary or desirable to eliminate the barriers described in clause (2) of this subsection.

(c) The Board shall also (1) (A) determine how and to what extent transportation barriers impede the mobility of handicapped individuals and aged handicapped individuals and consider ways in which travel expenses in connection with transportation to and from work for handicapped individuals can be met or subsidized when such individuals are unable to use mass transit systems or need special equipment in private transportation, and (B) consider the housing needs of handicapped individuals; (2) determine what measures are being taken, especially by public and other nonprofit agencies and groups having an interest in and a capacity to deal with such problems, (A) to eliminate barriers from public transportation systems (including vehicles used in such systems), and to prevent their incorporation in new or expanded transportation systems and (B) to make housing available and accessible to handicapped individuals or to meet sheltered housing needs; and (3) prepare plans and proposals for such further actions as may be necessary to the goals of adequate transportation and housing for handicapped individuals, including proposals for bringing together in a cooperative effort, agencies, organizations, and groups already working toward such goals or whose cooperation is essential to effective and comprehensive action.

(d) In carrying out its functions under this section, the Board shall conduct investigations, hold public hearings, and issue such orders as it deems necessary to insure compliance with the provisions of the Acts cited in subsection (b). The provisions of subchapter II of chapter 5 and chapter 7 of title 5, United States Code, shall apply to procedures under this section, and an order of compliance issued by the Board shall be a final order for purposes of judicial review.

(e) The Board is authorized to appoint as many hearing examiners as are necessary for proceedings required to be conducted under this section. The provisions applicable to hearing examiners appointed under section 3105 of title 5, United States Code, shall apply to hearing examiners appointed under this subsection.

(f) The departments or agencies specified in subsection (a) of this section shall make available to the Board such technical, administrative, or other assistance as it may require to carry out its functions under this section, and the Board may appoint such other advisers, technical experts, and consultant as it deems necessary to assist it in carrying out its functions under this section. Special advisory and technical experts and consultants appointed pursuant to this subsection shall, while performing

their functions under this section, be entitled to receive compensation at rates fixed by the Secretary, but not exceeding the daily pay rate, for a person employed as a GS-18 under section 5332 of title 45, United States Code, including traveltime, and while serving away from their homes or regular places of business they may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by section 5703 of such title 5 for persons in the Government service employed intermittently.

(g) The Board shall, at the end of each fiscal year, report its activities during the preceding fiscal year to the Congress. Such report shall include an assessment of the extent of compliance with the Acts cited in subsection (b) of this section, along with a description and analysis of investigations made and actions taken by the Board, and the reports and recommendations described in clauses (5) and (6) of subsection (b) of this section. The Board shall prepare two final reports of its activities under subsection (c). One such report shall be on its activities in the field of transportation barriers to handicapped individuals, and the other such report shall be on its activities in the field of the housing needs of handicapped individuals. The Board shall, prior to January 1, 1975, submit each such report, together with its recommendations, to the President and the Congress. The Board shall also prepare for such submission an interim report of its activities in each such field within 18 months after the date of enactment of this Act.

(h) There are authorized to be appropriated for the purpose of carrying out the duties and functions of the Board under this section $1,000,000 each for the fiscal years ending June 30, 1974, and June 30, 1975.

Sec. 100. This title shall be known as the "Rehabilitation Act Amendments of 1974.".

EXTENSION OF AUTHORIZATION OF APPROPRIATIONS FOR ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD

Sec. 110. Section 502(h) of such Act is amended by inserting before the period at the end thereof a comma and "and $1,500,000 for the fiscal year ending June 30, 1976".

Sec. 111. (n) (1) Section 502(a) of such Act is amended by redesignating clauses (6), (7), and (8) thereof as clauses (7), (8), and (9), respectively, and by inserting immediately after clause (5) the following new clause:

"(6) Department of Defense;"

(2) Section 502(a) of such Act is further amended by adding at the end thereof the following new sentence: "The Secretary of Health, Education, and Welfare shall be the Chairman of the Board, and the Board shall appoint, upon recommendation of the Secretary, a Consumer Advisory Panel, a majority of the members of which shall be handicapped individuals, to provide guidance, advice, and recommendations to the Board in carrying out its functions.".

(o) (1) Section 502(d) of such Act is amended by striking out "section, the Board" in the first sentence and inserting in lieu thereof "Act, the Board shall, directly or through grants to or contracts with public or private nonprofit organizations, carry out its functions under subsections (b) and (c) of this section, and".

(2) Section 502(d) of such Act is further amended by adding at the end thereof the following new sentences: "Any such order affecting any Federal department, agency, or instrumentality of the United States shall be final and binding on such department, agency, or instrumentality. An order of compliance may include the withholding or suspension of Federal funds with respect to any building found not to be in compliance with standards prescribed pursuant to the Acts cited in subsection (b) of this section.".

(p) Section 502(e) of such Act is amended by adding before the first sentence the following new first sentence: "There shall be appointed by the Board an executive director and such other professional and clerical personnel as are necessary to carry out its functions under this Act.".

(q) Section 502(g) of such Act is amended by striking out in the penultimate sentence "prior to January 1" and inserting in lieu thereof "not later than September 30".

(Editor's Note: In addition, two other provisions of the Rehabilitation Act Amendments of 1974 expand the involvement of the A&TBCB under separate areas of PL 93-112. Section III (k) of PL 93-516 amends Section 304(e) (1) of PL 93-112 concerning special projects. The initial legislation under PL 93-112 mandates technical assistance to rehabilitation facilities and to other facilities under the jurisdiction of the Vocational Rehabilitation program for the purpose of the removal of architectural and transportation barriers. The amendment of PL 93-516 requires that such technical assistance be provided only with the concurrence of the A&TBCB; this should ensure compliance with ANSI 117.1-1961 in such rehabilitation and other installations. Section III (l) of PL 93-516 amends Section 306 (b) of PL 93-112 concerning the general grant and contract requirements as they relate to an application for assistance for a construction project. The amending provisions of PL 93-516 are twofold: it is now required that the plans and specifications of such construction which is assisted by a grant under Section 306 (b) of PL 93-112 have the full concurrence of the A&TBCB; it is further required that this new responsibility of the A&TBCB be extended as well to all general construction project requirements in section 306(b) to an application for any project which involves construction. To our understanding, the A&TBCB must concur with any and all construction under section 306(b) of PL 93-112, whether it be construction of a new facility or alteration, renovation, or remodeling of an existing structure.)

Explanation: Public Laws 90-480 and 91-205

The standard used most frequently to implement Public Law 90-480 and the amending Public Law 91-205, the American National Standard ANSI A117.1-1961 "Specifications for Making Buildings and Facilities Accessible To, And Usable By, The Physically Handicapped," is included for the reader's convenience immediately following this discussion. We are indebted to the American National Standards Institute Inc. for permission to incorporate this valuable document in our publication.

While it would be far easier to take pot shots at the deficiencies within the above legislation, we believe that such an approach is counter-productive. These laws have caused numerous positive changes in attitudes toward, and facilities for, the physically handicapped citizen in this country. Proof of this fact can be found in the numerous pieces of correspondence reproduced in The First Report To The Congress of The United States by The Architectural and Transportation Barriers Compliance Board (November 1974). There is exhibited therein a high degree of sincerity among executive level employees of various Federal agencies to insure compliance with PL 90-480 in building construction within their jurisdiction. Our association, for one, does not wish to detract from these sincere efforts which have resulted clearly in making many Federal facilities more accessible to the physically handicapped. Eastern Paralyzed Veterans Association has definite recommendations for upgrading the above legislation but they are not discussed herein; such ideas must only be presented in the proper forum, to the Congress of the United States of America.

Basically, Public Law 90-480 represents landmark legislation. It removed the inclusion of accessibility for the physically handicapped in Federal buildings from the area of voluntarism to the more narrow stricture of statutory requirement. Its three major areas stipulate the types of buildings to be accessible, the conditions under which building construction must comply with the law, and the designation of architectural standards for implementation of the law. The idea of voluntary compliance with design considerations for the physically handicapped prior to the passage of PL 90-480 must not go unnoticed. Decades before this legislation, many Federal agencies provided accessibility as a mater of course; prominent among these is the Veterans Administration: for instance, most VA Hospitals, regional offices ,and outpatient clinics provide access to, and usability of, facilities for disabled clients. Even today, VA Construction Standard CD-28, in effect since October 1973, incorporates maximum space and design requirements for the physically handicapped. It is an excellent standard.

The first portion of PL 90-480's initial section defines those Federal buildings which are or are not required to be designed and constructed so as to be accessible to the physically handicapped. The law states specifically that only "certain buildings" are involved. Those not included are privately owned residential structures, such as one- and two-family dwellings, and buildings on a military installation constructed primarily for use by able-bodied military personnel. In other words, although the construction of such structures often receives Federal financial assistance – as in the case of one- and two-family dwellings mortgaged by VA or FHA funds – they need not conform to the requirements of this law for the physically handicapped.

As defined in the law, those structures which must comply with standards for the physically handicapped include ". . . any building or facility . . . the intended use for which either will require that such building or facility be accessible to the public, or may result in the employment or residence therein of physically handicapped persons (emphasis added) . . ." To expand the first series of words we have stressed, we refer to the A&TBCB First Report to Congress mentioned above. The report states in part that "in establishing the Act it was the intent of Congress that the word 'building' be given the broadest possible interpretation (emphasis added). Only certain military and residential structures were excluded from its provisions. All other Federally assisted buildings and facilities, whether they be small rest stations at public parks or multi-million-

dollar Federal office buildings, must be constructed to provide accessibility to the disabled." Other than those buildings excluded, any and all facilities constructed, altered, leased in whole or in part, or financed in whole or in part by a grant or a loan made by the United States must comply with PL 90-480 standards for the physically handicapped.

This interpretation must also extend to the second portion of the law we have emphasized – that the term "building" shall include those structures which may result in the residence therein of the physically handicapped. We believe this means that any and all multiple dwelling structures (those designed for occupancy by three or more families) which are constructed, altered, leased or financed with Federal assistance should comply with PL 90-480. Although such buildings may be privately owned, they are publically financed and they should be classified as "public" buildings with dwelling units for the physically handicapped. Since ANSI 117.1-1961 is not specific about the number of units for the disabled, we recommend a minimum of 2 apartments for the disabled or 4% of the total number of units in a publically-financed multiple dwelling building.

The second portion of Section 1 of PL 90-480 promulgates the conditions under which Federal agencies having construction authority, leasing authority, and authority to provide construction grants and loans must comply with the law. Any building constructed or altered by or on behalf of the United States after August 12, 1968 must provide facilities for the disabled. This wording is not specific as to the extent of alterations where facilities for the disabled are required. We recommend that no matter what the extent of alterations to Federal facilities, accessibility for the handicapped should be considered. The statutes concerning both the leasing and the financing by grant or loan by the United States have succeeded to an extent in eliminating barriers to the handicapped: but in both instances, the wording of the law allows many exemptions from compliance. If a building leased by the United States has not been constructed or altered "in accordance with plans and specifications of the United States," compliance with the law is not mandatory. And, if a building financed by a grant or loan made by the United States is not "subject to standards for design, construction, or alteration issued under authority of the law authorizing such grant or loan, "again compliance is not obligatory. On several different occasions, testimony before Congress has proven two points: that certain Federal agencies have issued regulations stressing that compliance is not necessary under the conditions mentioned above, and that amending legislation is needed desperately to correct this situation so that the broad interpretation of this law intended by Congress is secured. While we agree that such changes must be acted upon, nevertheless the conditions for compliance with PL 90-480 in Federal facilities have opened many new doors to the handicapped since 1968.

Sections 2, 3, 4, and 5 of PL 90-480 designate various authorities for the issuance of design standards to insure access and use of Federal buildings for the physically handicapped. The Secretary of Housing and Urban Development is authorized to prescribe standards for residential structures subject to the law, and the Secretary of Defense is authorized to promulgate standards for Department of Defense buildings subject to PL 90-480; the Administrator of General Services has the authority to issue standards for all other Federal buildings subject to the law. In issuing design standards for the physically handicapped, each of these three department heads consulted with the Secretary of Health, Education, and Welfare. As previously mentioned, the design standard most commonly used is ANSI 117.1-1961, and the implementation of this criteria in Federally assisted construction has improved accessibility. Yet, some problems remain. There exists in this country what might be termed a proliferation of design standards for the physically handicapped, and this fragmentation has filtered into Federal agencies responsible for compliance with PL 90-480. According to the First Report to Congress of the A&TBCB, for example, certain agencies either issue their own construction standards for the physically handicapped, or employ several standards to achieve compliance. Examples of the former are both the Veterans Administration and United States Postal Service. The later condition exists, for instance, in the Bureau of Reclamation of the Department of Interior: this agency utilizes four different sets of design criteria in construction for the disabled. This lack of one consistent compliance system is widespread. While we

believe that these and other agencies are conscientiously attempting to eliminate barriers to the disabled, and in many cases they are succeeding, we feel strongly that the only proper way to achieve accessibility for all physically disabled is through the use of one standard set of design specifications. Different individuals have differing needs but available experience and technology can produce a standard acceptable to all. This is a goal which can be achieved in a spirit of cooperation.

The final segment of PL 90-480, Section 6, authorizes the Administrator of General Services to waive standards outlined in Sections 2, 3, and 4 on a case-by-case basis if necessary, and to conduct surveys to determine if compliance with standards is being realized. According to the A&TBCB, the waiver clause has been invoked on rare occasions only where compliance would have been nearly impossible to achieve. In our view, the only instances where implementation of the law should be waived is if the alteration to achieve accessibility would make a facility virtually unusable. We can foresee no new construction where a waiver should be issued. Proper design for the disabled from the initial stages should negate completely the eventuality of a waiver request.

Concerning surveys relative to compliance, it is the responsibility of the Administrator of General Services to monitor the activities of most Federal agencies involved with construction of facilities and implementation of ANSI 117.1-1961 in these facilities. Such a survey was undertaken by GSA, according to the First Report to Congress of the A&TBCB. Most agencies reported to GSA that their facilities were in compliance with the law and the ANSI standard. However, GSA took upon itself the responsibility of conducting a review of the survey results received from those agencies under its authority via PL 90-480. The results of GSA's review were quite significant. Many discrepancies were found between the GSA review and the original results submitted by agencies. The overall conclusion was that total compliance with the ANSI standard was not being achieved, and the main reasons put forth for this lack of compliance were loopholes in PL 90-480 itself and misinterpretation of both the law and the standard.

It should also be mentioned that other surveys about the effectiveness of PL 90-480 have been undertaken. Two of these are quite important: one commissioned by Congress and completed by the General Accounting Office, and a second completed by a trio of consumer groups in the State of Iowa (the Iowa Easter Seal Society, the Iowa Chapter of the American Institute of Architects, the State Governor's Committee on Employment of the Handicapped). The GAO study included the inspection of 314 Federally financed buildings or building plans in 66 geographical areas of 35 States and the District of Columbia. All buildings examined were constructed, altered or leased after the passage of PL 90-480. According to the results of this study (GAO Report to Congress dated July 15, 1975), while most buildings were in varying stages of compliance with ANSI 117.1-1961, not one building inspected was completely free of barriers. Major deficiencies included unusable restrooms, elevators and fixture controls; inaccessible parking lots and doorways; and lack of identification of building areas for the physically handicapped.

The Iowa study (Accessibility – The Law and The Reality: A Survey To Test The Application and Effectiveness of Public Law 90-480 in Iowa dated May 4, 1974) arrives at the following general conclusion: that the law "has not met the stated intent of Congress – 'to insure that certain buildings . . . are . . . accessible to the physically handicapped' as it pertains to Iowa." This survey did note improvements in the removal of barriers to the disabled but it emphasized that "too many deficiencies were noted to judge the majority of projects built under the law fully accessible." Among the major barriers noted were inaccessible parking lots, restrooms, water fountains, and public telephones, and a lack of facilities for those with sight handicaps. The Iowa survey also recommended stronger enforcement and administration of PL 90-480, improved design standards to implement the law, and intensive education of Federal agency responsibilities under the law.

The survey results concerning the implementation of PL 90-480 discussed above present some obvious conclusions. There are ambiguities in the law which need clarification; there is a need for an effective statutory enforcement mechanism; there is a need for the standardization of a design criteria for the physically handicapped and a concurrent education of Federal officials involved in its implementation; and there is a crying need for a better set of specifications for building design for the disabled. On this last point, we are encouraged that ANSI 117.1-1961 is being upgraded completely and should be available in the early part of 1977. If disabled consumer groups are satisfied that it meets the need for barrier-free design, we hope this new standard will become an amending statutory requirement to PL 90-480. Considering the relative newness of PL 90-480 and the changes in both agency thinking and building design which it required, many barriers to the disabled have been eliminated in Federal facilities. We believe that little blame can be placed on Federal employees who have attempted to comply with PL 90-480; rather than direct fault toward any individual or group, it must be realized that total barrier-free design in Federally assisted facilities can only be accomplished through more restrictive laws, a more specific design standard, and more stringent compliance measures.

Explanation: Public Laws 93-112 and 93-516

The importance of insuring compliance with Public Laws 90-480 and 91-205 was a prime cause in the passage of Public Laws 93-112 and 93-516. Section 502 of PL 93-112 created the Architectural and Transportation Barriers Compliance Board, and PL 93-516 enlarged its scope and authority substantially. The legislation which formed the Compliance Board became effective on September 26, 1973, and its provisions are spelled out in eight subsections; the amending legislation, PL 93-516, went into effect on December 7, 1974, making additions and changes to five of the eight subsections of PL 93-112. The cumulative effect of both pieces of legislation mandates the composition of the Board, its specific functions, the methods, staffing, and technical assistance necessary to carry out its mandates, a means of reporting its findings and making recommendations for legislative change, and an appropriations clause. Although the true effectiveness of the Compliance Board has been questioned by many individuals and groups from the private sector, EPVA agrees with several Congressional Committee reports compiled prior to the passage of PL 93-516 which emphasized that the Board has the potential to become a major force for positive change in eliminating all barriers to the mobility of the physically handicapped.

The commentary which follows concerning the function of the Board since its inception is based on information received from the November 1974 First Report to Congress, and from correspondence and conversations with Compliance Board staff as of July 1, 1976. It is necessary to date this discussion since several studies conducted by the Board have not been completed or made public as of July 1976.

Section 502 (a) of PL 93-112 mandates the structure of the A&TBCB: it is formed within the Federal government and composed of the heads (or their designees) of nine Federal departments or agencies. The Chairmanship of the Board is held by the Secretary of Health, Education, and Welfare (or his designee). Providing guidance and recommendations to the Board is a Consumer Advisory Panel; a majority of this panel's members are physically handicapped individuals. The Compliance Board itself met on a monthly basis during the formative period of its operation, and now it has settled into a pattern of bi-monthly meetings. In general, their meetings focus on planning and policy which is then implemented by the professional staff of the Board. On the other hand, the Consumer Advisory Panel is only recently formed, and it has convened just once as of July 1, 1976. The differing authorities of the A&TBCB and the CAP are important: CAP acts solely in an advisory capacity; as constituted, it possesses virtually no powers. The A&TBCB, however, has the authority to issue orders of compliance and the ability to withhold funds in cases of non-compliance with PL 90-480.

Sections 502 (b) and (c) of PL 93-112 enumerate the Board's diverse functions. Its primary duty is to insure compliance with standards prescribed under the authority of Public Laws 90-480 and 91-205. According to the Board's First Report to the Congress of the United States, this function was the main emphasis of its activities during its first year of operation. The Board solicited and received reports on the compliance mechanisms at work within each of its member agencies or departments. As mentioned earlier, a majority of agencies use ANSI 117.1-1961 to implement PL 90-480. The specifics of each agency report prove that a certain amount of compliance is being achieved; however, the independent GSA review of these reports contradicts their results and points out widespread misinterpretation of both the statute and the standard. Our general view is that total compliance is not being secured.

As second function of the A&TBCB is to examine alternative approaches to all barriers which confront the physically handicapped, and to determine the methods used by both other levels of government and non-governmental groups to eliminate barriers. This is a monumental undertaking since laws and programs which provide access for the disabled are quite diverse. The tools chosen thus far by the A&TBCB to accomplish these ends are twofold: the use of public hearings and the Board's own investigations, both sanctioned under Section 502 (d) of PL 93-112. An example of the former is the A&TBCB's First Model Hearing conducted on June 20-21, 1974 in San Francisco. Testimony was received from various agencies, consumer groups and individuals involved in barriers removal in the San Francisco Bay area. The Bay Area and Western chapter of the Paralyzed Veterans of America took an active role in these proceedings. Focus was placed on the accessibility features of the Bay Area Rapid Transit System (BART), and on efforts to eliminate barriers in downtown San Francisco. What was learned from this hearing forms part of an A&TBCB investigatory report on Transportation Barriers. This report is completed and will be issued soon pending the approval of the Office of Management and Budget. As an added note, we are hopeful that somewhere in this report the necessity of insuring compliance with both the 1970 amendments to the Urban Mass Transportation Act of 1964 and the 1974 amendments to the Federal Aid Highway Act of 1973 is advocated.

Other investigations concurrent with the mandates of Sections (b) and (c) have been completed. Section (c) of the law, for instance, emphasizes the Board's examination of both transportation and housing needs of the disabled. Apart from its efforts concerning transportation barriers previously mentioned, the Board held another public hearing in Chicago on June 9-10, 1975 directed toward housing needs for the physically handicapped. The results of this hearing are published in a two-volume A&TBCB document, Freedom of Choice: Report To The President and Congress on Housing Needs of Handicapped Individuals, dated October 1975. This study contains many significant proposals which require legislative action. A third investigatory report concerning the accessibility of Outdoor Spaces is completed, approved by OMB, and currently being printed. In connection with this, a third public hearing concerning Recreation and the disabled is scheduled for Boston in October of 1976. Finally, the A&TBCB defeated a proposal to fund a study of Attitudinal Barriers in this country. In our opinion, this action was a serious oversight since we believe that negative attitudes toward this nation's disabled produce barriers of all sorts in the first place.

Further duties of the A&TBCB are promulgated in Sections (b) and (c) of the law. The Board is mandated to promote the International Symbol of Accessibility in public facilities which are in compliance with standards prescribed under PL 90-480. Simply stated, no major effort has begun in this area. The A&TBCB is also directed to report its findings from investigations into barriers to the President and the Congress, and to make recommendations for legislation, administration, plans, and proposals to further eliminate barriers of all types. The Board's First Report to the Congress was submitted in November of 1974; it contained no specific legislative recommendations. Its Second Report to the Congress is currently awaiting OMB approval. To our knowledge, it will contain precise proposals for legislation to improve the mobility of the physically handicapped in all areas listed in Section 502 (b) (2).

Section 502 (d) of PL 93-112 explains how the Board is to carry out its functions. Along with public hearings and its independent investigations into barriers problems and solutions, Section (d) authorizes the Board to issue grants and contracts to public or private non-profit agencies to study those issues mandated in Sections (b) and (c). Several grants have recently been awarded by the Board for this specific purpose. Other provisions of Section (d) give the A&TBCB potential enforcement means. The Board has the authority to issue orders of compliance under PL 90-480 which shall be final and binding, and it has the further power to withhold or suspend Federal funds for building construction which is not in compliance with standards under PL 90-480. The Board has yet to exercise either of these powers; while this is unfortunate, the A&TBCB has recently circulated proposed rules for "Practice and Procedures for Compliance Hearings" (published in the June 10, 1976 issue of the Federal Register). The purpose of these proposed rules is to set up a workable system to adjudicate complaints of alleged non-compliance. We view the establishment of this process as a positive step. In their proposed form, these rules provide for the issuance of final and binding orders of compliance and the witholding of funds if a decision of non-compliance is reached. If these regulations are issued substantially as they are proposed, the A&TBCB will finally become a "Compliance Board" in the true sense of the term.

Section 502 (e) of PL 93-112 concerns the professional staff of the A&TBCB. Currently, the staff includes thirteen (13) full-time employees including an Executive Director with overall administrative responsibilities. His staff is divided into three separate departments to carry out efficiently the policies and decisions of the Board itself. As it should be, the staff of the A&TBCB is located in Washington, D.C. Section (e) further provides for the appointment of hearing examiners for the purpose of conducting proceedings in cases of alleged non-compliance. No hearing examiners have been designated as of July 1, 1976. Most certainly, we expect that once the final regulations for "Practices and Procedures for Compliance Hearings" are issued, the A&TBCB will retain as many hearing examiners as are necessary to deal with the current backlog of complaints. Perhaps, even a regional compliance hearing system may one day be necessary to handle the complaint case load.

Section 502 (f) directs the agencies and departments composing the Board itself to supply full technical assistance in order for the Board to meet its objectives, and it also authorizes the appointment of special technical consultants to assist the A&TBCB's function. To be candid, technical assistance from the Federal agencies involved could be intensified. The private sector seems more inclined and willing to provide such aid. Unfortunately, the hiring of technical advisers has not been achieved either. This situation is directly related to the fiscal restraints imposed on the Board discussed under Section 502 (h).

Section 502 (g) covers the Board's responsibility to report its activities, investigations, actions taken, and the extent of compliance to the Congress at the close of each fiscal year. To our knowledge, the Board has met its requirements in this area. This section also mandates two final reports to be submitted to Congress not later than September 30, 1975 – one in the field of Transportation Barriers to the disabled, and a second on the Housing Needs of handicapped individuals. The report on Housing Needs was submitted on the date specified while the study of Transportation Barriers awaits the approval of OMB prior to printing and public distribution.

The final section of PL 93-112 involves appropriations for its operation. There is a vast difference between a sum designated to be appropriated and the actual monies released. For example, $1.5 million was appropriated for the fiscal year ending June 30, 1976, but funds in the vicinity of $500,000.00 were actually available for the function of the Board and its staff. The same appropriation has been made for the fiscal year ending June 30, 1977, and it is expected again that only about one-third of that amount will be available to the A&TBCB. If the Compliance Board is to become a real force for the removal of all barriers to the mobility of the disabled in this country, it must be fully funded as appropriated by the Congress.

An overview of the operation of the A&TBCB since its creation can be seen as a dichotomy: on the positive side, it is making great efforts in meeting its mandate to investigate and report its findings concerning most barriers to the mobility of the physically handicapped in this country. By no means has the Board been dormant in this area. On the negative side, it has just begun to implement its primary function, to insure complete compliance with Public Laws 90-480 and 91-205. Recent events indicate that the A&TBCB is moving in this direction; the proposed "Practice and Procedures for Compliance Hearings" should provide the system to bring about total compliance. The Board must have a compliance review mechanism that is active and the necessary funds to make the system workable.

In conclusion, the Eastern Paralyzed Veterans Association believes that a very basic constitutional right is involved inextricably with the question of accessibility for the physically handicapped in this country. This principle must be stated clearly. Primarily, a physical disability constitutes a restriction of individual mobility; the rehabilitative process restores such mobility to the physically handicapped. Furthermore, physical movement is absolutely essential in our society. It is the core of every educational, employment, recreational, and social opportunity available to citizens of the United States. Able-bodied Americans, by and large, enjoy such freedom; unfortunately, the physically handicapped do not in many cases. Simply stated, freedom of movement is a basic civil right for all Americans, including the physically handicapped. We believe that this right is guaranteed specifically in the Bill of Rights and elsewhere as well in the Constitution of the United States. We further believe that to construct a building which restricts freedom of movement for the physically handicapped is a violation of basic constitutional rights. This principle extends also to the use of public transportation, housing, and the general environment.

This concept is easily documented. In the opening statement of hearings before the Subcommittee on Investigations and Review of the Committee on Public Works and Transportation conducted in October 1975, concerning the effectiveness of PL 90-480, Congressman James Wright, Chairman of the Subcommittee, stated: "We are talking about otherwise alert, productive citizens who both desire and deserve the right to function (emphasis added) as productive citizens in a highly mobile society. Americans instinctively feel emotion and sympathy for our handicapped citizens. But emotion and sympathy do not provide much assistance to the person in a wheelchair seeking access to his post office, or trying to visit a pigeon-holed local social security office. His plight can be aided, however, by sensible action programs of government, involving the design of buildings and transportation systems."

From the private sector comes a similar statement which supports this philosophy. In an article entitled "The Handicapped Plead for Entrance – Will Anyone Answer?" printed in the Kentucky Law Journal, Professor Alan J. Farber of the Catholic University Law School examines the failure of the Federal government to provide access to Federal buildings for all disabled. Professor Farber states in part that PL 90-480 "does not effectively accomplish that which it protests to do . . . the Act simply does not, in legal or practical effect, insure that physically handicapped persons will have ready access to, and use of (Federal) buildings . . . As the legislative history of the Act implies and as any wheelchair-bound individual will attest, voluntarism in the area of accessibility, as in civil rights issues, is essentially nonexistent (emphasis added)." The physically handicapped in this nation have learned through sometimes bitter experience that voluntarism, emotion, vague policy statements, and sympathy do not produce access on a daily basis. Sensible government action programs are the solution.

It seems appropriate that, in this Bicentennial year, there is a heightened awareness among the nation's physically handicapped that continued lack of accessibility is a grave threat to their "independence," and that their inability to use Federal buildings and facilities constitutes an abridgment of basic civil rights. We at EPVA do not advocate a revolution but we expect that our awareness be understood and acted upon by government officials on all levels.

Like the founding fathers of this country, the physically handicapped must seek freedom. The seventeenth-century Dutch philosopher Spinoza held that freedom consisted of forces arising from within each individual human being; freedom of mobility for this nation's disabled population must arise from society and its government. It is government which must generate a value system of total accessibility. Our leaders must acquire an intellectual and imaginative vision of seeing things whole and clear for the physically handicapped. In turn, the disabled must have faith, that type of faith which emanates from the positive experience acquired since the above laws became effective.

The results of public and private surveys and investigations concerning these laws have yielded both positive and negative conclusions. All such results are based on the experience of the physically handicapped in this country, and in the final analysis, it is precisely this experience which is most meaningful, and from which the knowledge to improve accessibility springs. An obvious case in point is the current update of the ANSI standard. These laws have not only removed barriers but they have provided a basis of experience in the field of barrier-free design. As in scientific inquiry, observation and discovery have enlarged the experience needed to remove barriers. We now have a wider range of facts; consequently, the principles behind the laws must be modified to apply to these facts. What we at EPVA believe to be most encouraging is that this experience is open and public and available to anyone who wishes to learn from it and act upon it. The Congress of the United States can accomplish this. The existing public laws have removed barriers in many areas, but more significantly, they have provided direction to governments on all levels for the achievement of total accessibility.

BARRIER—FREE DESIGN

FOREWORD

TO: All Political Sub-divisions and Instrumentalities of the State of New Jersey, all private individuals, partnerships, associations and/or corporations and all professional and contracting firms involved in construction of all Public Buildings, Structures and Facilities.

FROM: State of New Jersey
Department of the Treasury
Division of Building and Construction
Director: S. Leonard DiDonato
State Architect: Alfred W. Wensley, Chairman
Barrier Free Design Task Force
P.O. Box 1243, Trenton, N.J. 08625
Telephone Number: 609-292-6065

SUBJECT: Barrier Free Design

Following are Barrier-Free Design Regulations for providing facilities for the physically handicapped in public buildings, prepared by the Division of Building and Construction, and pursuant to Chapter 220, Laws of New Jersey, 1975, approved 10/8/75.

The above Laws amend and supplement previous Chapter 269, Laws of 1971, approved July 27, 1971.

Chapter 219, Laws of New Jersey, 1975, approved 10/8/75, an act requiring Boards of Education to provide facilities for the physically handicapped for public buildings has been promulgated by the State Board of Education; and is referred to herein as a matter of reference only.

Design Standards for Curb Ramps for the physically handicapped have been promulgated by the Department of Transportation; and these Standards are referred to herein as a matter of reference only.

All users of these Regulations are requested to secure the latest edition or revision thereof, since they may be revised to meet changing economic conditions and technological progress.

Statements printed in *italics* within these Regulations are advisory in nature. They reflect desirable standards; but they are not mandatory. Specific Regulations not in italics are mandatory.

All provisions stated herein, whether in bold face or italics, should be fully incorporated in facilities specifically designed for handicapped persons.

For interpretation, clarification or additional information, please write to the Director of the Division of Building and Construction, P.O. Box 1243, Trenton, New Jersey, Attention: Barrier-Free Design Office.

The following Regulations supersede all previous promulgations and involve all public and private buildings used by the public in the State of New Jersey.

NEW JERSEY ADMINISTRATIVE CODE

TITLE 17

Subtitle E. DIVISION OF BUILDING & CONSTRUCTION

CHAPTER 19A FACILITIES FOR THE PHYSICALLY HANDICAPPED IN PUBLIC BUILDINGS

Authority: N.J.S.A. 52:32-4 and 52:32-5 as amended and supplemented, Chapter 220, Laws of 1975.

The following are proposed new rules to replace 17:19A-(1.1—1.25):

SUBCHAPTER 1. PURPOSE, SCOPE, AND ENFORCEMENT AND APPEALS

17:19A-1.1 Purpose

(a) These regulations are intended to make public buildings accessible to, and functional for, the physically handicapped, thus enabling them to live a fuller life more commensurate with that enjoyed by the able-bodied. It fulfills the mandate of the New Jersey Legislature in Chapter 220, Laws of 1975 for a State Standard Barrier-Free Design Code. It is a promulgation of the State Treasurer pursuant to this statute.

NOTE: See separate standards promulgated by the Department of Education, pursuant to Chapter 219, Laws of 1975, relating to public school design.

See separate standards promulgated by the Department of Transportation relating to Curb Ramps for the physically handicapped.

See separate standards for Health Care Facilities as issued by the New Jersey Department of Health.

17:19A-1.2 Scope

(a) These regulations apply to the construction or remodeling of all public buildings, structures, and facilities with the following exceptions:

1. One to Four Family Residences: — For the purpose of these regulations a residence is defined as a self-contained unit independently constructed or separated from similar units by party walls.
2. Town houses: — For the purpose of these regulations, a townhouse is defined as a privately owned or rented dwelling unit of two or more levels of living space where the separation between levels is more than 12".
3. Warehouse storage areas.
4. All buildings classified as hazardous occupancies.

5. Historic Buildings: — Existing buildings identified and classified by the State and/or local government authority as historic buildings subject to the approval of the board of appeals when making provisions for the handicapped could not be accomplished without major alteration or changing of the character of the building.
6. A building permit issued under valid construction regulations prior to the effective date of these regulations shall remain valid, and the construction of any building or structure may be completed pursuant to and in accordance with said permit. The construction of any building or structure started before the promulgation of these regulations that did not, as of the date of the beginning of the construction, require a construction permit may be completed without a construction permit.

NOTE: Effective date: January 1, 1977 for all public buildings except residential.
September 1, 1977 for residential occupancy—Subchapter 6.

17:19A-1.3 Enforcement and Appeals

(a) The administrative authorities responsible for the enforcement of these regulations are:
1. Any municipality that has established jurisdiction for code enforcement, or the State Department of Community Affairs in the case of municipalities that have relinquished jurisdiction. (See NJSUCC 5:23-4.3, 4.4, 4.5.)
2. The Department of the Treasury, Division of Building and Construction, with respect to all buildings constructed or remodeled by the State of New Jersey, owned by the State, and any of its Departments, Divisions, Bureaus, Boards, Councils, Authorities, or other agencies.

(b) In cases of practical difficulty, the appellate authorities, see 1.3(d), may grant exceptions from the specific requirements and specifications required by these regulations, or permit the use of other methods or materials, but only when it is clearly evident that equivalent facilitation and protection for the physically handicapped are thereby secured.

(c) Exceptions based on practical difficulty, unnecessary hardship or extreme differences shall apply to the specific requirement in question, and shall not extend to other requirements mandated by these regulations.

(d) Decisions of the administrative authorities pursuant or related to these regulations may be appealed in writing as follows:
1. The established county appeal board appointed to hear such appeals. (Until such time as such an appeal board has been organized and recognized by the Division of Building and Construction, or January 1, 1978, if such procedure has not been implemented, such appeals are to be addressed as in (a) 2 above.) All appeals are to be documented with evidence of rejection at municipal level, description of "practical difficulty" or "unreasonable hardship", as relates to specific requirements of the regulations.

NOTE: County Appeal Boards are to assign alternate members that have been listed with the Division of Building & Construction as being acceptable for hearing such appeals. Such members shall have full voting rights.

2. To the State Treasurer attention of Director, Division of Building and Construction, who shall provide a departmental appeal, with respect to buildings of the State of New Jersey, owned by the State, and any of its Departments, Divisions, Bureaus, Boards, Councils, Authorities, or other agencies.

(e) Appeals under 1.3(d) may be submitted by an owner, or his authorized agent, or by any aggrieved party. (See NJSUCC 5:23-2.10 for procedure.)

(f) Appellate authorities (see 1.3(d)) granting an exception from the specific requirements of these regulations will, in each case, in addition to meeting the requirements of NLSUCC 5:23-2.10 prepare a statement of the exception. A record file of such statements, properly indexed, shall be kept by the administrative authorities and shall be subject to public inspection during business hours.

Explanation: Until January 1, 1978, this section on appeals is suspended. County appeal boards must devise their own appeals process regulations and have them approved and certified by DBC. Until such time, the State Architect will rule on appeals. A case for an appeal would exist when a variance from these regulations for the disabled is rejected on the local level. Even if an appeal is granted, "equivalent facilitation and protection for the physically handicapped" in the facility under appeal must be secured. This is the responsibility of the State Architect.

SUBCHAPTER 2. DEFINITIONS & USE GROUP CLASSIFICATIONS

NOTE: The Definitions and Use Group Classifications listed in these regulations correspond, where possible, to the Use Group Classification in THE BOCA BASIC BUILDING CODE, Article 2, Definitions and Classifications.

17:19A-2.1 Addition (Increase in Area)
An extension or increase in floor area or height of a building or structure.

17:19A2.2 Aging
Reduced mobility, flexibility, coordination, or perceptiveness due to age or physical conditions.

17:19A2.3 Alteration
As applied to a building or structure means a change or rearrangement in the structural parts or in the means of egress; or enlargement whether by extending on a side or by increasing in height or the moving from one location or position to another.

17:19A2.4 Apartment Building
A building containing five or more dwelling units for rental.

17:19A-2.5 Assessed Value
For the purpose of these regulations and to maintain consistency with the Uniform Construction Code, the assesed value of a structure is to be considered the same as physical value. (See NJSUCC 5:23-2.3 Applicability.)

17:19A-2.6 Barrier-Free

An environment that will permit a handicapped person to operate independently with comparative ease under normal circumstances and with little or no other assistance.

17:19A-2.7 Deaf or Hard-of-Hearing

Auditory limitations that might make an individual insecure because he is unable to communicate or hear warning signals.

17:19A-2.8 Dwelling Unit

A single unit providing complete, independent living facilities for one (1) or more persons including permanent provisions for living, sleeping, eating, cooking and sanitation.

17:19A-2,9 Facility for Handicapped People

Includes any ramp, handrail, elevator, door, specially treated surface and similar design, convenience, or device which facilitates the health, safety, or comfort of a handicapped person.

17:19A-2.10 Faulty Coordination Disability

Incoordination or palsy from brain, spinal, or peripheral nerve injury.

17:19A-2.11 Fixed Turning Radius, Front Structure or Rear Structure

The turning radius of a wheelchair, left front-foot platform to right rear wheel, or right front-foot platform to left rear wheel, when pivoting on a spot.

17:19A-2.12 Fixed Turning Radius, Wheel-to-Wheel

The tracking of the caster wheels and large wheels of a wheelchair when pivoting on a spot.

17:19A-2.13 Handicapped Person

A person or persons who may be classified as having a physical impairment which manifests itself in one or more of the following ways: non-ambulatory; semi-ambulatory; visually impaired; deaf or hard-of-hearing; having faulty coordination; and having reduced mobility, flexibility, coordination, or perceptiveness due to age, physical, or mental conditions.

17:19A-2.14 Hazardous Occupancy: (Exempt from Handicapped Law)

The occupancy or use of a building or structure or any portion thereof which is used for the storage, manufacture, or processing of highly combustible or explosive products or materials, which are likely to burn with extreme rapidity, or which may produce poisonous fumes or explosions; for storage or manufacturing which involves highly corrosive, toxic or noxious alkalies, acids or other liquids or chemicals producing flame, fume, poisonous, irritant or corrosive gases; and for the storage or processing of any materials producing explosive mixtures of dust, or which result in the division of matter into fine particles subject to spontaneous ignition.

17:19A-2.15 International Symbol of Access

Where Barrier-Free facilities are provided, such facilities are to be identified by the International Symbol of Access (see Appendix "F").

17:19A-2.16 Involved (Involvement)
A portion of portions of the human anatomy of physiology, or both, that have a loss or impairment of normal function as a result of genesis, trauma, disease, inflammation, or degeneration.

17:19A-2.17 Manually Operated Doors
Doors operable by a single effort with a maximum push or pull of eight pounds, with the exception of fire doors, or doors required by federal, state or local regulations to be self-closing, which may have a maximum push or pull as per the governing code, (Uniform Construction Code of New Jersey, unless otherwise identified).

17:19A-2.18 Mezzanine
An intermediate level between the floor and ceiling of any story and covering not more than thirty-three (33) percent of the floor area of the room in which it is located.

17:19A-2.19 Minimal Accessibility
An environment that will afford a handicapped person access with difficulty. Some assistance may be required.

17:19A-2.20 Non-ambulatory Handicap
An impairment that, regardless of cause or manifestation, for all practical purposes, confines individuals to wheelchairs.

17:19A-2.21 Non-Slip
As used in this code, shall mean a surface that is tested or approved to be slip resistant by a nationally recognized testing laboratory.

17:19A-2.22 Parking Lot
Any area, inside or outside a building, set aside for the parking of three or more vehicles with or without charge to the owners of these vehicles.

17:19A-2.23 Physical Handicap
A physical impairment which confines a person to a wheelchair; causes a person to walk with difficulty or insecurity; affects the sight or hearing to the extent that a person functioning in a public area is insecure or exposed to danger; causes faulty coordination; or reduces mobility, flexibility, coordination and perceptiveness to the extent that facilities are needed to provide for the safety of that person.

17:19A-2.24 Principal Entrance
An entrance frequently used by the general public.

17:19A-2.25 Public Assembly Areas (See Use Group Classifications)
Any areas wherein large numbers of individuals collect to participate or to observe programs of participation. The most common of these are auditoria, stadia, gymnasia, or comparable facilities under different names, for example, "field house", "banquet room", and "theater".

17:19A-2.26 Public Building: (See Use Group Classifications)

17:19A-2.27 Ramps, Ramps with Gradient, Ramps with Slopes

A graded walkway connecting two level areas of different elevation and providing a smooth transition between such areas. Ramps may be either interior or exterior ramps. The exterior type are those assoicated with graded walkways that deviate from the slope of the adjacent ground. Ramps may have a maximum grade of 8.33% pitch.

NOTE: Although a maximum grade of 8.33% pitch is acceptable, the more the ramp approaches level, the more usable and convenient it becomes for all people.

17:19A-2.28 Remodel

With respect to an existing public building as defined in this Act, to construct an addition, alter the design or layout of said public building so that a change or modification of the entrance facilities, toilet facilities, or vertical access facilities is achieved, or make substantial repairs or alterations. (See Remodeling, Subchapter 3 Substantial Repairs, Alterations, or Additions.)

17:19A-2.29 Route of Travel

(a) The principal path to be traversed by the handicapped from the exterior of the premises (either at the public sidewalk in front of the principal entrance of a building, and/or at one or more designated parking lots that serve the building), the interior of the building and continuing via stairs, elevators, or ramps to all major floor areas of the building. The term shall also include the return trip to the exterior of the premises from any major floor area.

(b) For buildings in a complex, the term "route of travel" shall include the paths traversed between buildings serviced by the same parking lot.

For outdoor areas such as parks, zoos, school athletic fields and playgrounds, the term shall include the paths necessary for the handicapped to participate in activities within the area when deemed practical by the construction official.

17:19A-2.30 Semi-ambulatory Handicap

An impairment that causes individuals to walk with difficulty or insecurity. Individuals using braces, canes, or crutches, such as amputees, arthritics, spastics, and those with pulmonary and cardiac ills may be semi-ambulatory.

17:19A-2.31 Standard

When this term appears in small letters it is descriptive and does not refer to the State Standard Barrier-Free Design Code mandated by the New Jersey Legislature in Chapter 220, Laws of 1975. When this term appears with a capital, i.e., "Standard", it does refer to the mandated State Standard Barrier-Free Design Code.

17;19A-2.32 Story

A story is any of the floor levels, one above the other, into which a multi-storied building (a building containing two or more stories) is divided vertically. For the purpose of these regulations, the decks of grandstands,

arenas, and stadia are considered stories. Also, floor levels, including basements and roofs, used for the parking of automobiles are considered stories. However, balconies of theaters and gymnasia are not considered stories.

17:19A-2.33 Substantial Repairs or Alterations: (See Subchapter 3)

A repair or alteration shall be considered substantial if its cost equals or exceeds 25% of the physical value of the building undergoing the repair alteration.

17:19A-2.34 Use Group Classifications

NOTE: The Definitions and Use Group Classifications listed in these regulations correspond, where possible, to the Use Group Classification in THE BOCA BASIC BUILDING CODE, Article 2 Definitions and Classifications.

(a) Public building means any building, structure, facility or complex used by the general public whether constructed by any state, county or municipal government agency or instrumentality or any private individual, partnership, association or corporation, including, but not limited to the classified use groups listed below with exceptions hereinafter stated:

USE GROUP CLASSIFICATIONS

Group A: Assembly Buildings

Auditoria, Concert Halls, Libraries, Museums, Public Eating Places, Public Transportation, Recreation Facilities, Schools, Terminals and Stations and Theaters.

Group B: Business Buildings

Business Establishments, Office Buildings and Passenger Vehicle Service Stations.

Group F: Factory and Industrial Buildings

Factories

Group H: High Hazard Buildings

NOTE: This classification is exempt from the Handicapped Law.

Group I: Institutional Buildings

Group M: Mercantile Buildings, Shopping Centers

Group R: Residential Buildings

NOTE: One to four-family residences: This classification is exempt from the Handicapped Law.

Five-family or over residences, hotels, motels.

Group S: Storage Buildings

NOTE: Warehouse and Storage Buildings are exempt from the Handicapped Law.

Group T: Temporary and Miscellaneous Uses

NOTE: Temporary and Miscellaneous Buildings and Structures such as private garages, sheds, construction offices at building sites, and so forth are exempt from the Handicapped Law.

DOUBTFUL USE CLASSIFICATION

NOTE: When a building or structure is proposed for a use not specifically provided for herein or the classification of which is doubtful, such building or structure shall be included in the use group which it most nearly resembles.

17:19A-2.35 Visual Impairment
Total blindness or impairments affecting sight to the extent that the individual might be insecure or exposed to danger.

17:19A-2.36 Walk, Walks
An exterior pathway leading to or from a building or from one exterior area to another, that has an all-weather, hard surface of uniform width, a predetermined direction, and is considered as part of a route of travel as defined herein.

SUBCHAPTER 3. REMODELING, SUBSTANTIAL REPAIRS, ALTERATIONS, OR ADDITIONS

17:19A-3.1 Remodeling
When existing entrances, stairs, elevators, and public toilet rooms or other areas that fall within the province of these regulations are remodeled, such changes are to be constructed in accordance with the requirements of this Standard without regard to percentage relationship between cost of alterations and the physical value of the building. However, this requirement shall not apply where it would necessitate alterations of existing load bearing structural members.

17:19A-3.2 Substantial Repairs and Alterations Greater than 50% of Physical Building Value
If the cost of making repairs or alterations shall exceed 50% of the physical value of the building, the entire building shall be made to comply with the requirements of this Standard.

17:19A-3.3 Substantial Repairs & Alterations Between 25% and 50% of Physical Building Value

If the cost of making repairs or alterations shall be between 25% and 50% of the physical value of the building, only those portions of the building repaired or altered shall be made to comply with the requirements of this Standard.

17:19A-3.4 Substantial Repairs & Alterations Under 25% of Physical Building Value

If the cost of making repairs or alterations shall be under 25% of the physical value of the building, such repairs or alterations shall be either in accordance with the requirements of these regulations or in compliance with their previously required condition and with the same or equivalent material or equipment, provided the general safety and public welfare are not thereby endangered.

17:19A-3.5 Additions (Increase in Area)

Additions as defined under Subchapter 2.1 on buildings falling within the province of these regulations are to be constructed barrier-free unless otherwise exempted.

Explanation: If alterations to an existing building exceed 50% of the physical value of the building, the entire building must meet all the requirements of the BFD Code. Any addition put on an existing building—an extension, an increase in floor space, an increase in height—shall be barrier free. Also, barrier-free construction is required in the altered portion of an existing building where alteration costs fall between 25% and 50% of the physical value of the building, and barrier-free construction according to this Standard is an option to the owner if costs fall under 25% of the physical building value; we encourage building owners to choose the barrier-free option in this case. Remodeling to any existing building where the remodeling involves a change to means of access or any of the facilities governed by this Standard shall be accomplished according to this Standard regardless of alteration cost/physical value percentages.

SUBCHAPTER 4. SITE DEVELOPMENT

17:19A-4.1 Introduction

NOTE: While site development can be an effective means of resolving the problems relative to ingress to and egress from buildings by physically handicapped people, the problems created by topography, definitive architectural designs or concept, water table, existing streets, and environmental requirements and concerns are sufficient reasons for exemption from the provisions of these Standards if so determined by the administrative or appellate authorities.

17:19A-4.2 Grading

Access by means of grading, approach ramps or walks shall be provided for all public buildings.

17:19A-4.3 Walks

(a) All route of travel walks serving accessible principal entrance(s) shall meet the following criteria:

1. Be at least 48 inches wide.

NOTE: Where considerable traffic or persons in wheelchairs is anticipated, walks or portions of walks should be at least 60 inches wide to allow simultaneous passage of wheelchairs in each direction.

2. Have a gradient no more than 5%, although walks which approach level are preferred.

NOTE: i. It is essential that the gradient of walks be less than that of ramps, since walks are normally considerably longer and more vulnerable to the elements.

ii. Techniques such as terracing and winding walks are valuable in providing more gradual inclines.

iii. Pathways over 5% gradient are considered ramps and shall meet the specifications under 5.1.

3. Be of continuing common surface not interrupted by steps or abrupt changes in level. Where walks constitute the route of travel as defined in 2.29(a), and where they intersect other walks, driveways, parking lots, or streets, the intersection shall either be at a common level or shall blend to a common level with curb cuts or ramps.

NOTE: i. It is not the intention here to completely eliminate curbs which are distinct safety feature, warning the visually impaired of possible vehicular traffic.

ii. Where cuts or ramps are necessary to allow persons with non-ambulatory handicaps to negotiate curbs, they shall be constructed in accordance with the regulations prescribed jointly by the Department of Transportation, Commission for the Blind, and the Department of Labor and Industry, Division of Vocational Rehabilitation, pursuant to P.L. 1975, C. 224.

4. Have a non-slip surface.

5. Have level areas, for rest, at least 5 feet long every 60 feet whenever the gradient in between 3% and 5%. No such level rest areas are necessary if the gradient is between 0% and 3%.

6. Be level from side to side (minimum width 48") or have a maximum transverse slope for drainage of 3/16 inch per foot.

7. Be at the same approximate level as the adjacent grade. (Maximum differential 8".)

NOTE: Handrail or other protective provision should be provided where the grade drops abruptly within 3 feet of sidewalk.(Figure 1).

Explanation: The route of travel for the physically handicapped should provide free and unobstructed access to public buildings. For many physically disabled, especially wheelchair-users, even the slightest obstruction in a surface can be a hazard. Care should be taken that expansion joints, ramp and curb cut lips do not in themselves become obstructions in the route of travel. Also, administrative and appellate authorities should bear in mind that problems created by topography, water table, etc., can be solved through innovative architectural design. To commonly grant exemptions from walk requirements would not secure equivalent protection and facilitation for the physically handicapped.

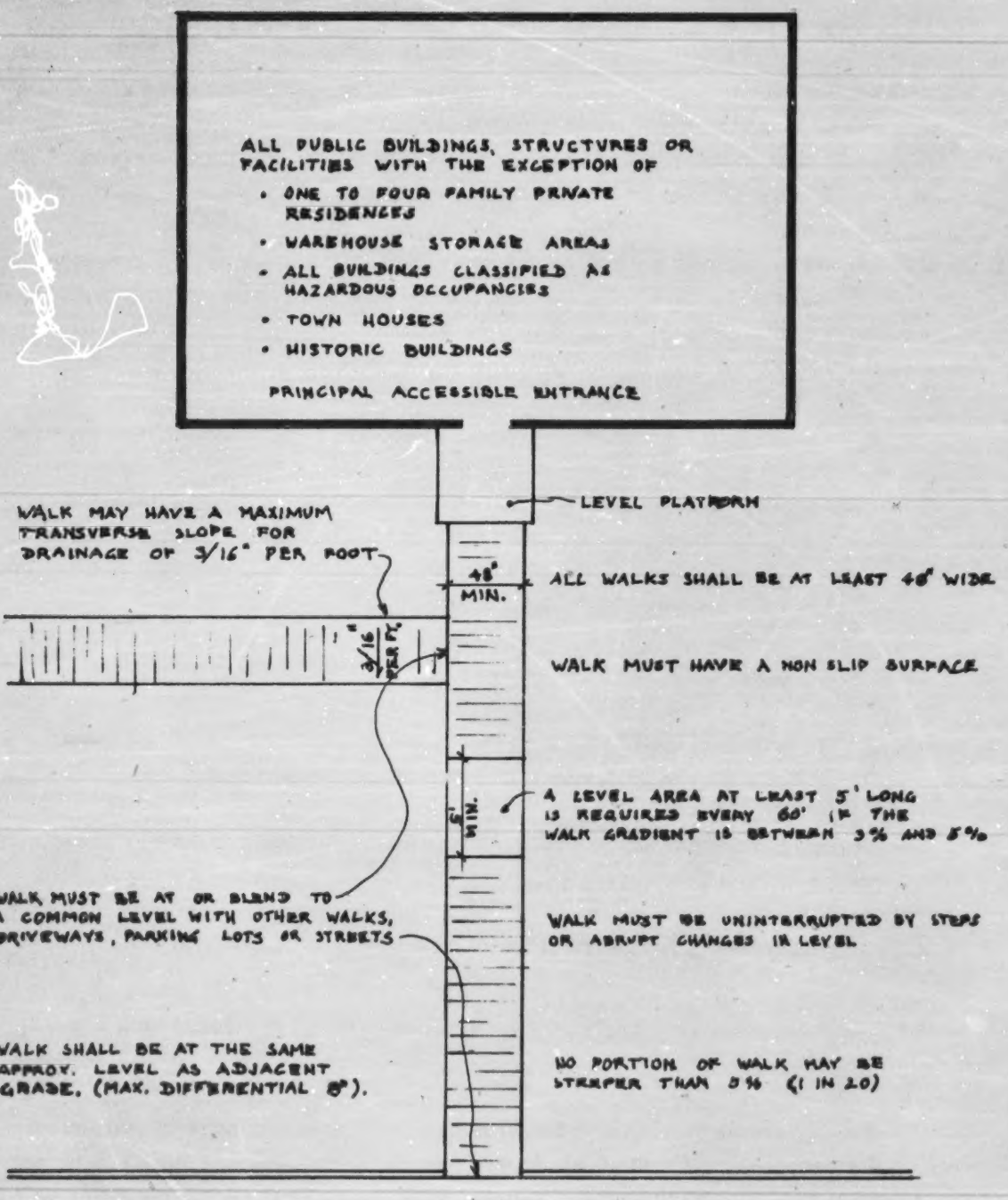

ALL PUBLIC BUILDINGS, STRUCTURES OR FACILITIES WITH THE EXCEPTION OF
• ONE TO FOUR FAMILY PRIVATE RESIDENCES
• WAREHOUSE STORAGE AREAS
• ALL BUILDINGS CLASSIFIED AS HAZARDOUS OCCUPANCIES
• TOWN HOUSES
• HISTORIC BUILDINGS
PRINCIPAL ACCESSIBLE ENTRANCE
LEVEL PLATFORM
WALK MAY HAVE A MAXIMUM TRANSVERSE SLOPE FOR DRAINAGE OF 3/16" PER FOOT
48" MIN.
ALL WALKS SHALL BE AT LEAST 48" WIDE
3/16" PER FT.
WALK MUST HAVE A NON SLIP SURFACE
5' MIN.
A LEVEL AREA AT LEAST 5' LONG IS REQUIRED EVERY 60' IF THE WALK GRADIENT IS BETWEEN 3% AND 5%
WALK MUST BE AT OR BLEND TO A COMMON LEVEL WITH OTHER WALKS, DRIVEWAYS, PARKING LOTS OR STREETS
WALK MUST BE UNINTERRUPTED BY STEPS OR ABRUPT CHANGES IN LEVEL
WALK SHALL BE AT THE SAME APPROX. LEVEL AS ADJACENT GRADE. (MAX. DIFFERENTIAL 8").
NO PORTION OF WALK MAY BE STEEPER THAN 5% (1 IN 20)

Figure 1. Building Access and Walk Requirements

17:19A-4.4 Parking

(a) For parking facilities under the control and regulation of the State, every county and municipality, and every parking authority created pursuant to the "Parking Authority Law" N.J.S.A. 40:11A-1 et seg., a minimum of 1% of the total number of parking spaces, but not less than two parking spaces, shall be provided for handicapped persons in an area of the parking facility which is most accessible and approximate to the building or buildings which the facility serves.

(b) In all other instances where parking lots are provided for public buildings as defined herein, designated parking spaces for handicapped persons shall be required as follows:

TOTAL PARKING IN LOT	REQUIRED NUMBER OF ACCESSIBLE SPACES
Up to 50	1
51 to 200	2
Over 200	1% of total spaces in lot (to nearest whole number)

(c) Designated parking spaces for handicapped drivers shall be as close as possible to the route of travel to the accessible principal entrance or entrances (see 5.2) to the building, and shall be indentified with a clearly visible sign mounted off the ground and displaying the International Symbol of Access and containing appropriate wording, e.g., "Disabled drivers only". (Figure 2).

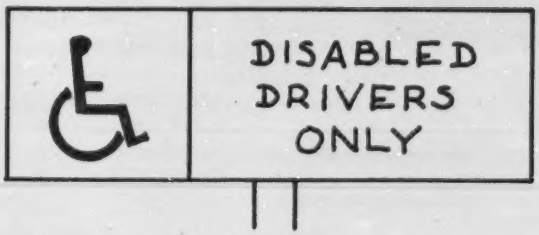


Figure 2. Parking Space Sign

NOTE: Where the designated space cannot be wihtin 200 feet of the accessible principal entrance or entrances, a drop-off area is to be provided within 100 feet of such entrance or entrances.

(d) Parking spaces for individuals with physical handicaps shall be 12 feet wide with an unobstructed, near-level, paved surface that is suitable for wheeling and walking.

1. Such parking spaces shall allow room for individuals in wheelchairs or individuals on braces, canes and crutches to get in and out of either side of an automobile.
2. A standard parking space parallel to a curb shall constitute an acceptable space for handicapped parking providing it allows sufficient area for individuals in wheelchairs or individuals on braces and crutches to get in and out of either side of an automobile onto a near-level, paved surface that is suitable for wheeling and walking, and affords route of travel accessibility to the building.

3. Care in planning shall be exercised so that individuals in wheelchairs and individuals using braces and crutches are not compelled to wheel or walk behind parked cars.

(e) Where applicable, curb ramps shall be provided to permit handicapped people access from parking areas to sidewalk. (Figure 3)

Explanation: Curb ramps from parking area to sidewalk must be placed in parking areas provided for public buildings as defined by this Code. Provision 17:19A-4.4(d)3 can be achieved easily if parking spaces for the handicapped are situated adjacent to the beginning of the route of travel.

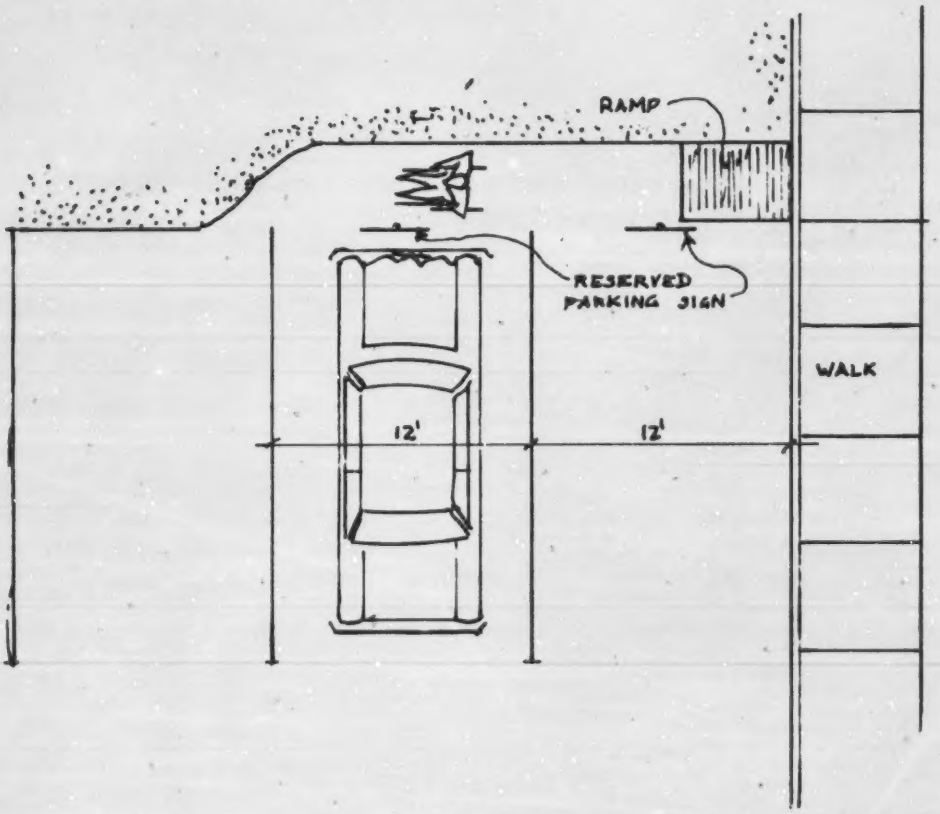


Figure 3. Parking Area Requirements

SUBCHAPTER 5. BUILDINGS

17:19A-5.1 Ramps with Gradients

Where exterior or interior ramps with gradients are necessary or desired for handicapped persons, they shall conform to the following specifications:

(a) A ramp shall have a grade not greater than the equivalent of one (1) foot rise for every 12 feet of length (or 8:33% pitch).

(b) The width of the ramp shall be a minimum of 48 inches.

1. Where considerable traffic of persons in wheelchairs is anticipated, ramps should be 60 inches wide to allow simultaneous passage of wheelchairs in each direction.

(c) A ramp shall have continuous handrails on two sides. The handrails shall be 32 inches in height, measured perpendicular from the surface of the ramp, and shall extend one (1) foot beyond the top and bottom of the ramp, except where impracticable because of walk intersections or changes in direction. There shall be a clearance of at least 1½ inches between the handrail and the wall or other obstructions. The handrails shall be 1½ inches in width at the grasping surface.

1. Handrails should be non-slip, (embossed etc.)

2. Handrails are used for pushing, pulling, lifting, and support. They must be sturdy. They are of extreme importance for handicapped and elderly people. If polished, they can be slippery. Squared corners and points are safety hazards. The face of the handrail should have a rounded surface, easy for a person to hold.

3. Care shall be taken that the extension of the handrail is not in itself a hazard. The extensions may be made on the side of a continuing wall.

4. Where major traffic is predominately children, particularly physically handicapped children, extra care should be exercised in the placement of handrails; and consideration should be given to the nature of the facility and the age group or groups being serviced. Intermediate rails 1½ inches wide should be provided wherever handrails are required for children and adults.

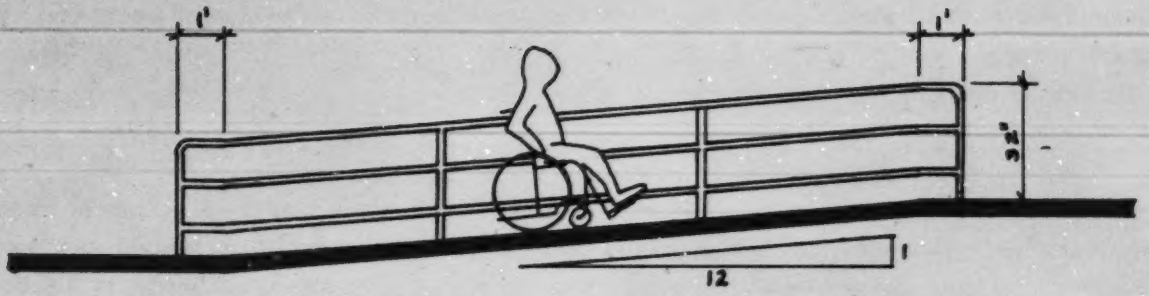
(d) A ramp shall have a surface that is non-slip.

(e) When it is necessary for a ramp to exceed 30 feet in length, the ramp shall have level areas at least 60" long at no more than 30 foot intervals and at each turning point.

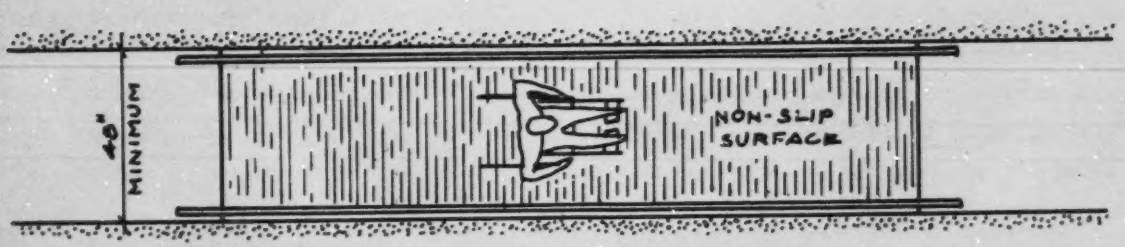
(f) Each ramp shall have at least 5 feet of level clearance at the top and bottom. Additionally when a ramp terminates at a door, the level area shall extend at least one (1) foot beyond each side of the doorway opening and 30 inches beyond the outswinging arc of the door, see 5.2(b).

(g) Ramps should be free of gratings or other openings. (If gratings within the ramps cannot be avoided, maximum width opening to be kept to ½"). (Figures 4, 5, 6).

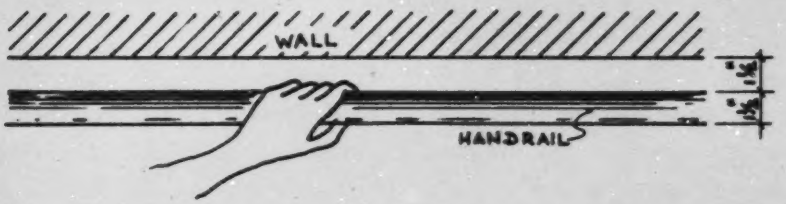
Explanation: It is always preferable through site development to eliminate the necessity for ramps by providing level or near-level access. A ramp of even the slightest grade may present difficulty to some severely disabled persons. Consideration should be given to the width of ramps if they are used, since many non-handicapped persons will also choose to use ramps for building access. For public buildings where substantial pedestrian traffic is expected. ramps as wide as possible or at least 60 inches in width are suggested.



- MAXIMUM ALLOWABLE RAMP GRADIENT IS 8.33% (1 in 12)
- RAMPS SHALL HAVE CONTINUOUS HANDRAILS ON TWO SIDES
- HANDRAILS SHALL BE 32 INCHES IN HEIGHT
- HANDRAILS SHALL EXTEND ONE FOOT BEYOND THE TOP AND BOTTOM OF RAMP



- RAMPS SHALL BE A MINIMUM OF 48" WIDE
- A RAMP SHALL HAVE A SURFACE THAT IS NON-SLIP



- THERE SHALL BE A MINIMUM CLEARANCE OF 1½" BETWEEN HANDRAIL AND WALL OR OTHER OBSTRUCTIONS
- HANDRAILS SHALL BE 1½" WIDE AT THE GRASPING SURFACE

Figure 4. Ramp and Handrail Requirements

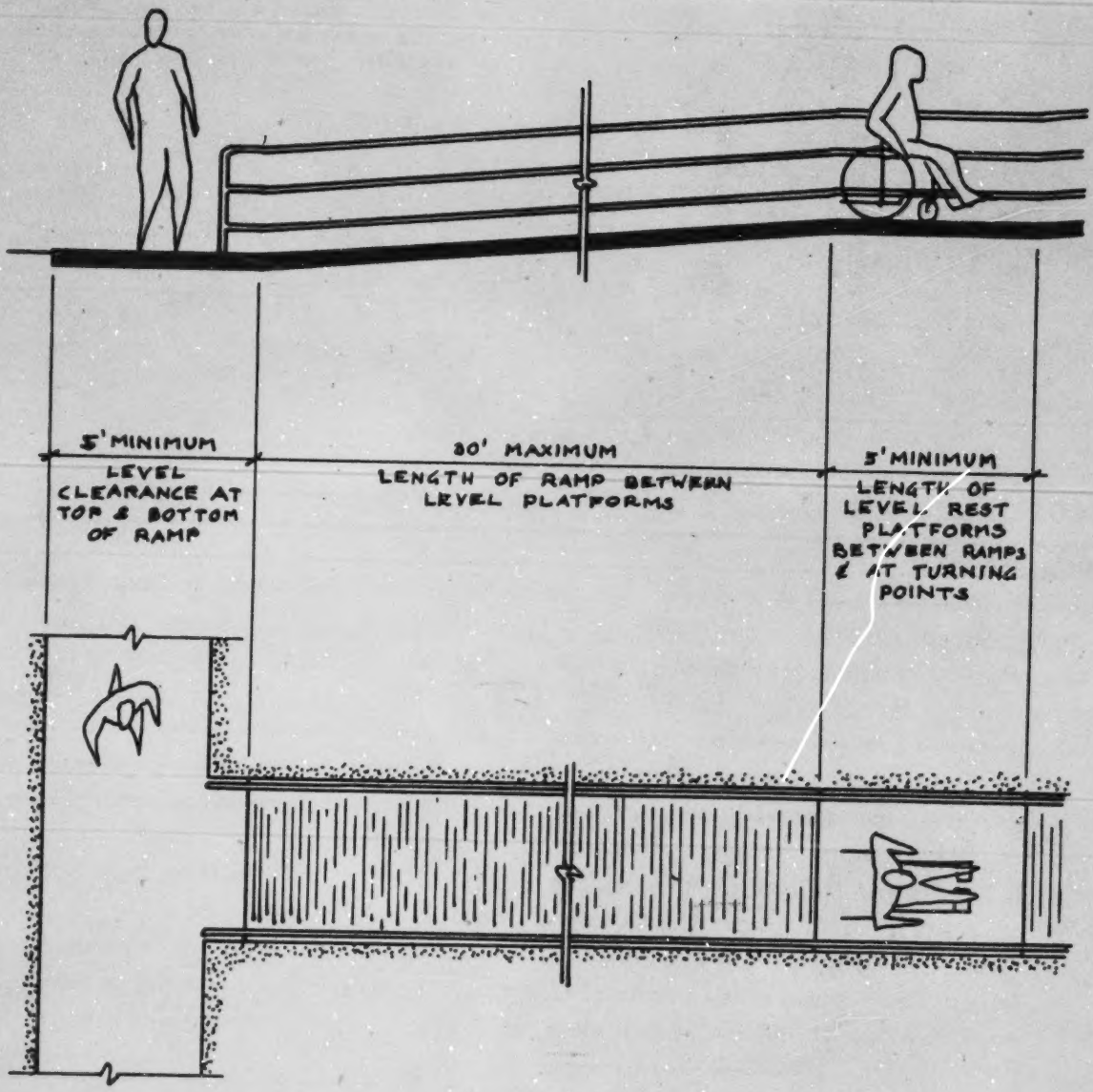

5' MINIMUM
LEVEL CLEARANCE AT TOP & BOTTOM OF RAMP
30' MAXIMUM
LENGTH OF RAMP BETWEEN LEVEL PLATFORMS
5' MINIMUM
LENGTH OF LEVEL REST PLATFORMS BETWEEN RAMPS & AT TURNING POINTS

Figure 5. Ramp Platform Requirements

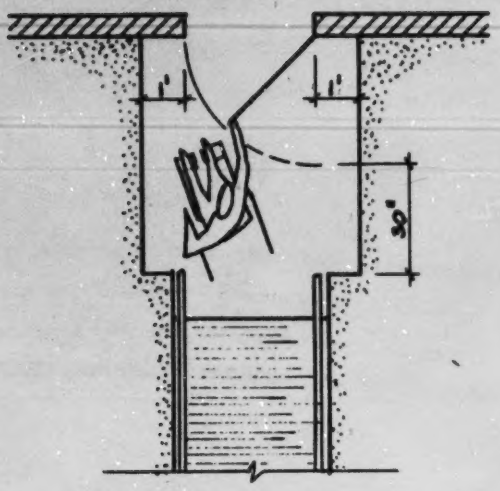

A RAMP TERMINATING AT A DOOR REQUIRES A LEVEL AREA EXTENDING AT LEAST ONE FOOT BEYOND EACH SIDE OF THE DOORWAY OPENING AND 30 INCHES BEYOND THE OUTSWINGING ARC OF THE DOOR
1'
1'
30"

Figure 6. Level Area At Doorways

17:19A-5.2 Entrances

(a) At least one principal entrance shall be constructed in a manner that makes the building (and elevators if appropriate) accessible to individuals with physical handicaps. Access shall be achieved through the auxiliary, permanently fixed ramp, or through grading the ground, so that it attains a level with the principal entrance or entrances.

Note: 1. A principal entrance is an entrance frequently used by the general public. In many instances, such entrances connect a parking area with a rear entrance. Thus, a principal entrance is not necessarily the front entrance. In selecting principal entrances to be accessible to, and usable by, the physically handicapped, the designer is encouraged to consider what principal entrance(s) will best meet the needs of physically handicapped people.

2. Because all ingress and egress is important, especially in cases of emergency, it is preferable that all entrances and exits to and from the building should be accessible to, and usable by, individuals in wheelchairs and individuals with other forms of physical handicap herein applicable.

(b) No obstructions to the passage of a wheelchair shall be placed in the routes of travel.
Examples of obstructions are turnstiles, vertical posts spaced less than 32 inches apart, and any chain or other mechanical device requiring opening or removal by other than the handicapped person attempting to accomplish passage.

(c) Turnstiles: When turnstiles are required for access, an alternate means of access is to be provided for wheelchairs which does not require disruption of traffic, stoppage of work, or assistance from other people.

NOTE: This might be done with a swinging gate or removable railing which can be electrically released by a nearby cashier.

(d) Where revolving entrance doors are used, additional side-hung doors which conform to Section 5.3(c), must be provided adjacent to the revolving doors.

(e) All accessible entrances should be identified by the International Symbol of Access.

Explanation: Consideration should be given to directing physically handicapped persons to the principal public entrance(s). For example if a principal public entrance is a rear or side entrance connected to a parking area, a sign at the front entrance should state this if the front entrance is not accessible.

17:19A-5.3 Doors, Doorways, Corridors (Barrier-Free)

(a) Exterior route of travel doors and interior doors shall have a clear opening passageway of no less than 32 inches when the door is open and shall be operable by a single effort.

Note: Normally a 32 inch clear opening requires a door wider than 32 inches.

(b) Manual pull or push on the door shall not exceed 8 pounds (measured under normal conditions) in order to operate the door. Doors requiring greater force to activitate are to be equipped with compensating spring-loaded devices to reduce the force to a maximum of 8 pounds, or be otherwise equipped for automatic operation and such doors shall be identified with the International Symbol of Access. All interior doors shall meet the 8 pound force requirement. (Figure 7).

Exempted from this requirement are all doors which may have a maximum push or pull as per the governing code, (Uniform Construction Code of New Jersey, unless otherwise identified).

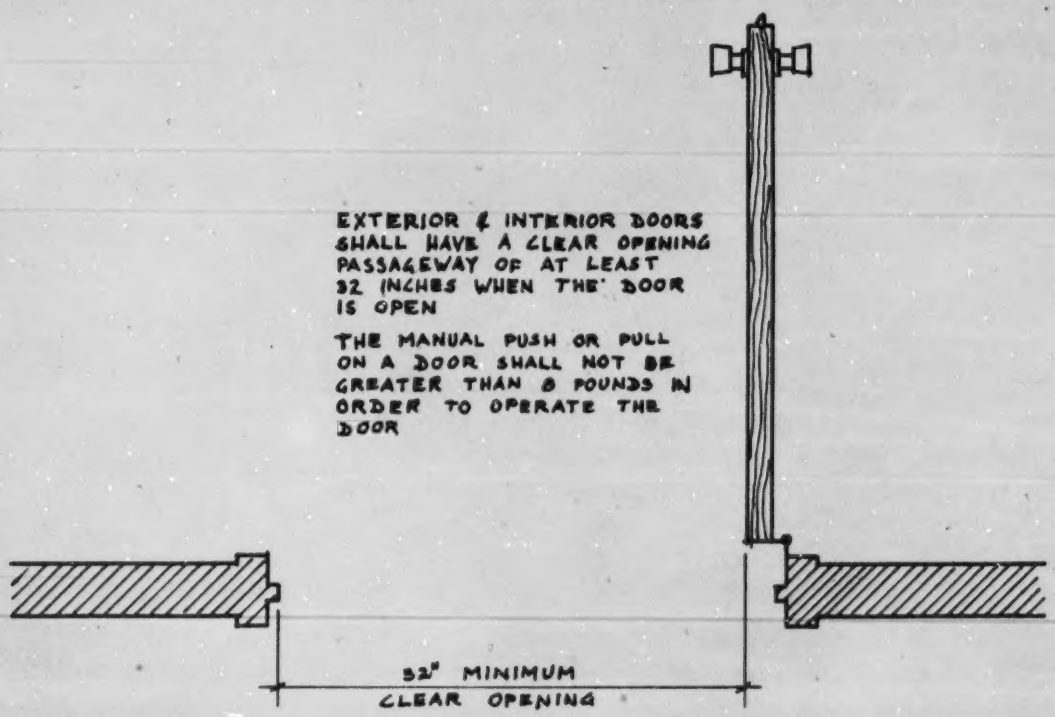
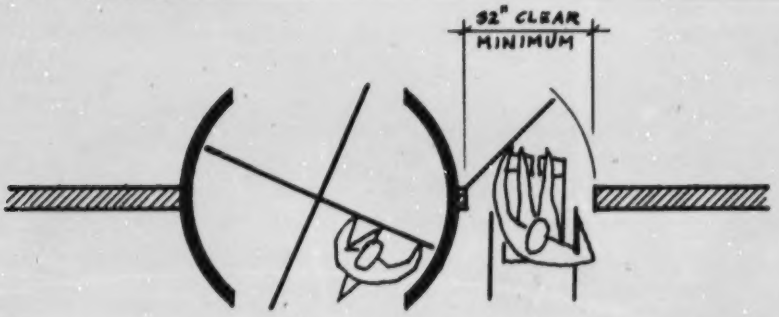

EXTERIOR & INTERIOR DOORS SHALL HAVE A CLEAR OPENING PASSAGEWAY OF AT LEAST 32 INCHES WHEN THE DOOR IS OPEN
THE MANUAL PUSH OR PULL ON A DOOR SHALL NOT BE GREATER THAN 8 POUNDS IN ORDER TO OPERATE THE DOOR
32" MINIMUM CLEAR OPENING

Figure 7. Door Requirements

1. Doors, solely dependent on electrical devices, shall, in cases of power failure, be manually operable under the provisions of 5.3(b).

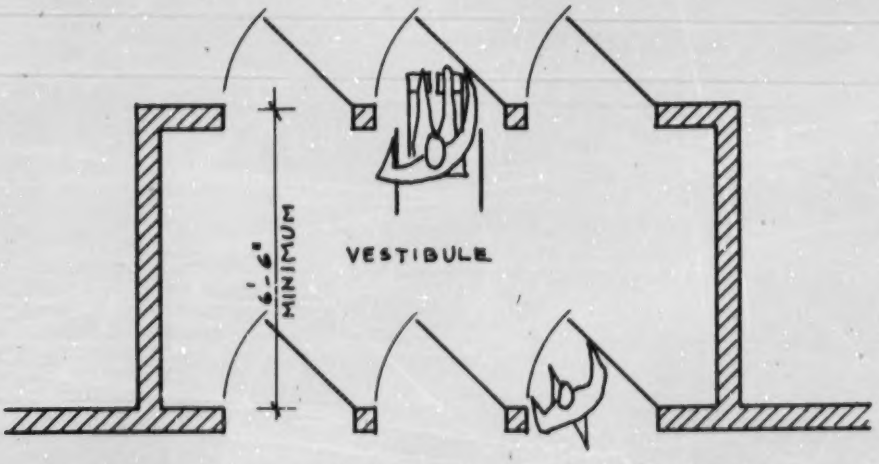
(c) Where revolving doors are used, an auxiliary hinged door having a clear opening passageway of not less than 32 inches shall be provided adjacent to the revolving door. This door shall be unlocked whenever the revolving doors are unlocked. (Figure 8).



A HINGED DOOR HAVING A CLEAR OPENING PASSAGEWAY OF AT LEAST 32" IS REQUIRED ADJACENT TO REVOLVING DOORS.
THIS DOOR SHALL BE UNLOCKED WHENEVER THE REVOLVING DOORS ARE UNLOCKED.

Figure 8. Door Access Adjacent to Revolving Doors

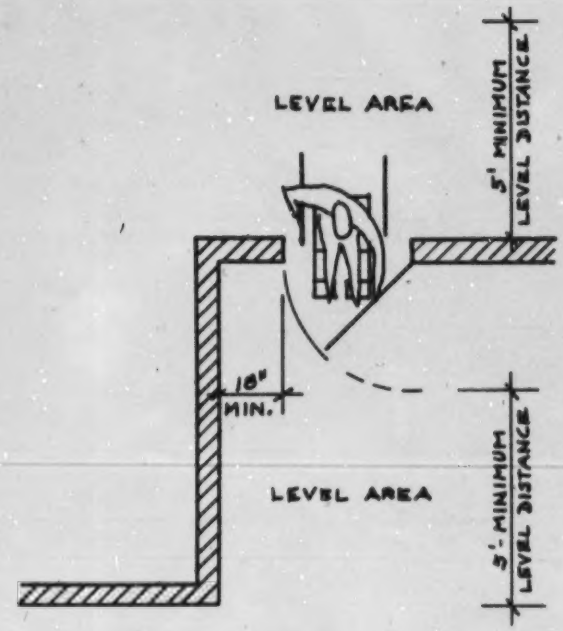
(d) Where vestibules are provided in public buildings, the distance between doors shall be not less than 6 feet 6 inches, and all doors shall swing in the same direction. (Figure 9).



VESTIBULE DOORS IN PUBLIC BUILDINGS SHALL BE NO LESS THAN 6 FEET 6 INCHES DISTANT FROM DOOR TO DOOR.
ALL VESTIBULE DOORS SHALL SWING IN THE SAME DIRECTION

Figure 9. Vestibule Requirements

(e) The floor on the inside and outside of each entry doorway shall be level for a distance of at least 5 feet from the door swing, and on the pull side of the entry door the distance from the edge of the door to the perpendicular wall shall be a minimum of 18" on latch side. On exterior slabs, a minimum slope shall be made for drainage. (Figure 10).



FLOOR AREAS ON INSIDE AND OUTSIDE OF ENTRANCE DOORWAYS SHALL BE LEVEL FOR A DISTANCE OF AT LEAST 5' FROM THE DOOR SWING ON THE PULL SIDE OF ENTRY DOOR THE DISTANCE FROM THE EDGE OF THE DOOR TO THE PERPENDICULAR WALL SHALL BE 18" ON THE LATCH SIDE

Figure 10. Level Area At Entrance Door

(f) Raised thresholds should be avoided; but may be installed if required and shall be not higher than ¾ inch and beveled with the slope not to exceed 45 degrees.

1. It is recommended that, when appropriate, all doors have kick plates extending from the bottom of the door to at least 16 inches from the floor or be made of a material and finish that would safely withstand the abuse that might be received from canes, crutches, wheelchair foot-platforms, or wheelchair wheels. (Figure 11).

(g) Two-leaf doors are not acceptable unless they open with a single effort, or unless one of the leaves provides a minimum clear opening of 32 inches. (Figure 12).

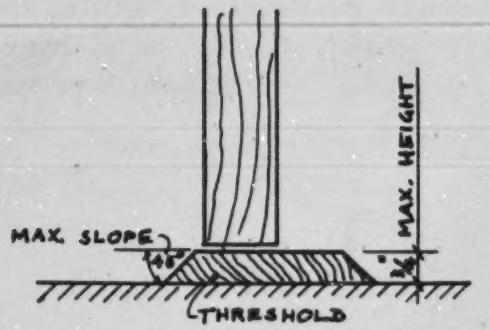

MAX. SLOPE
45°
MAX. HEIGHT
¾"
THRESHOLD
IF A RAISED THRESHOLD IS REQUIRED, IT SHALL BE NO HIGHER THAN 3/4 INCHES.
THE SLOPE OF THE THRESHOLD SHALL BE NO GREATER THAN 45 DEGREES.

Figure 11. Threshold Requirements

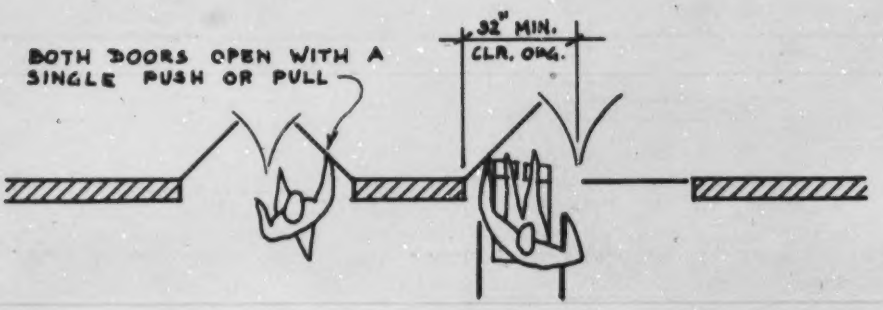

BOTH DOORS OPEN WITH A SINGLE PUSH OR PULL
32" MIN. CLR. OPG.
TWO-LEAF DOORS ARE NOT ACCEPTABLE UNLESS THEY OPEN WITH A SINGLE EFFORT, OR UNLESS ONE OF THE LEAVES PROVIDES A MINIMUM CLEAR OPENING OF 32"

Figure 12. Two-Leaf Door Requirements

(h) Minimum corridor width at the door opening shall be as follows unless greater width is required by New Jersey State Uniform Construction Code:

60 inches if door swings into corridor.

42 inches if door does not swing into corridor and door openings are less than 36".

36 inches if passage doors at corridor have 36 inches clear opening and do not swing into corridor.

Note: Doors may be recessed to meet minimum corridor width requirements. (Figure 13).

(i) Door hardware to be lever type. (Figure 14).

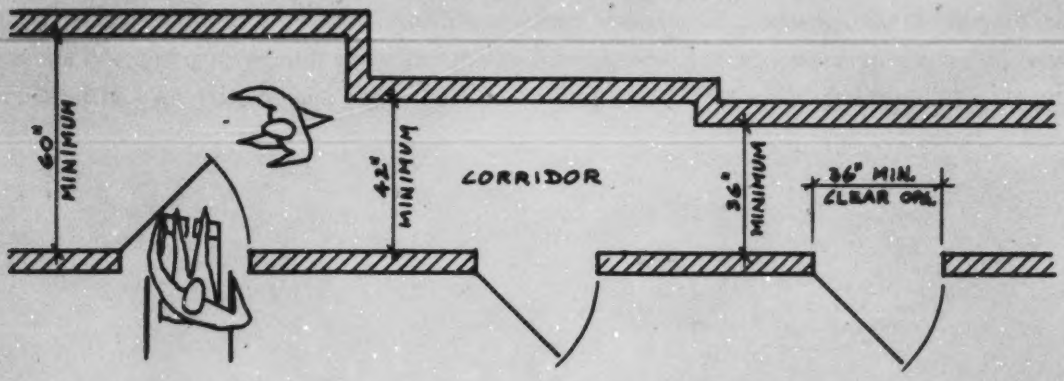

60" MINIMUM
42" MINIMUM
CORRIDOR
36" MINIMUM
36" MIN. CLEAR OPN.
MINIMUM CORRIDOR WIDTH AT THE DOOR OPENING SHALL BE:
60 INCHES IF THE DOOR SWINGS INTO THE CORRIDOR
42 INCHES IF THE DOOR DOES NOT SWING INTO THE CORRIDOR
36 INCHES IF THE DOOR HAS 36 INCHES CLEAR OPENING AND DOES NOT SWING INTO THE CORRIDOR

Figure 13. Corridor Requirements

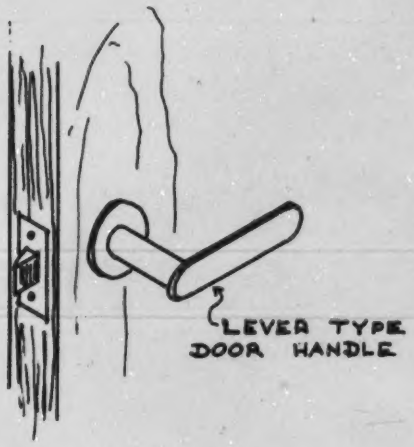


Figure 14. Lever Door Handle

(j) Door hardware at hazardous areas (boiler rooms, loading docks, etc.) to be non-lever type, knurled or coated with abrasive to warn the visually limited. (Key operated latch can be substituted for knurling or abrasive coating.) (Figure 15).

(k) Doors at minimal accessibility facilities such as toilets in small shops, small offices, and non Barrier-Free residential (see Section 6.2(c)1), etc. are to be a minimum of 32" in width.

(l) On all inswinging doors, a minimum clearance of 1'6" is to be provided between wall and door opening on latch side to permit individual in wheelchair to reach latch and open door past wheelchair. (Figure 16).

Explanation: Automatic doors provide extreme ease of ingress and egress for physically handicapped persons. The "knurled" or textured door knob is also an excellent alternative, since it provides a gripping surface for those with upper extremity impairment. Door knobs and handles should be situated at a height no more than 40 inches from the finished floor.

DOOR HANDLES TO HAZARDOUS AREAS SHALL BE NON-LEVER TYPE WITH KNURLED OR ABRASIVE COATED SURFACE

Figure 15. Knurled Doorknob

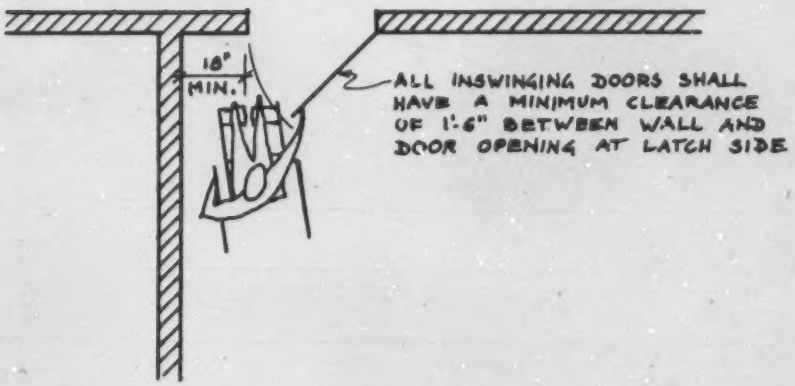


Figure 16. Inswinging Door Requirements

17:19A-5.4 Stairs

In addition to other laws and ordinances, required public stairs shall comply with the following regulations:

(a) Such stairs shall be constructed without abrupt (squared) nosing.

The surface of risers may be sloped, as long as the total horizontal projection of the riser does not exceed 1½ inches.

(b) All stairs should be provided with permanent, non-slip nosings and/or flush treads.

(c) *Stair risers should not exceed 7½ inches on stairs in the route of travel.*

(d) Free standing handrails for required public stairs shall be set 32 inches above the stairs measured vertically above the nosing. Free standing handrails on each stair flight shall extend 12 inches beyond the top step and the bottom step, at the established height above the level of the landing. (See BOCA Section 616.5.1 for Handrails at interior exit stairways.)

(e) Handrails shall be 1¼ to 1½ inches in width at the grasping surface, and shall provide 1½ to 2 inches in clearance between the handrail and the wall and/or support surface.

Note: Care should be taken to design the handrail extensions so that they, in themselves, will not become a hazard. The handrail extensions sould be on the side of a continuing wall. (Figure 17.)

Explanation: We must emphasize that, by definition within this Code, stairs shall not be an ingredient of the accessible route of travel for the physically handicapped. They may be located conveniently adjacent to the route of travel, but not within it.

17:19A-5.5 Floors (Interior)

(a) Floors* on a given story in a public building shall be a common level throughout, or be connected by a ramp in accord with 5.1, except that thresholds meeting requirements of 5.3(f) may be used. Balconies and bleachers are not required to conform to this requirement.

In lobbies, restaurants, cocktail lounges and theaters raised or depressed areas not exceeding 32" in height nor 10% of usable net area will be permitted.

1. In public buildings, there shall not be a difference between the level of the floor of a corridor and the level of a meeting room, dining room, or any other room, unless ramps in accord with 5.1 are provided.
2. Raised or depressed areas not normally open to the general public that are for the purpose of providing for security, entertainment, display, or other special or unique service or purpose are exempted from this requirement, where such depressed or raised area is necessary for the performance of the specific function.

*(Loading and transitional platforms are not considered to be floors.)

(b) Sanitary floor finishes shall be non-slip surfaces.

1. Wax or other coating used for finish shall be non-slip.
2. All square-edged ceramic tile floors in showers and wet areas shall be non-slip tile containing 7.5% abrasive grain content or non-glazed, cushion-edged ceramic tile without abrasive content.

(c) Use of gratings should be avoided, but if necessary, they shall contain skid proof grids with maximum openings of ¾ inch in any direction. The entire grid shall be flush with the surrounding surface.

(d) Metal or resilient transition strips are required where carpet (or other material) adjoins another flooring material and is not flush with that material.

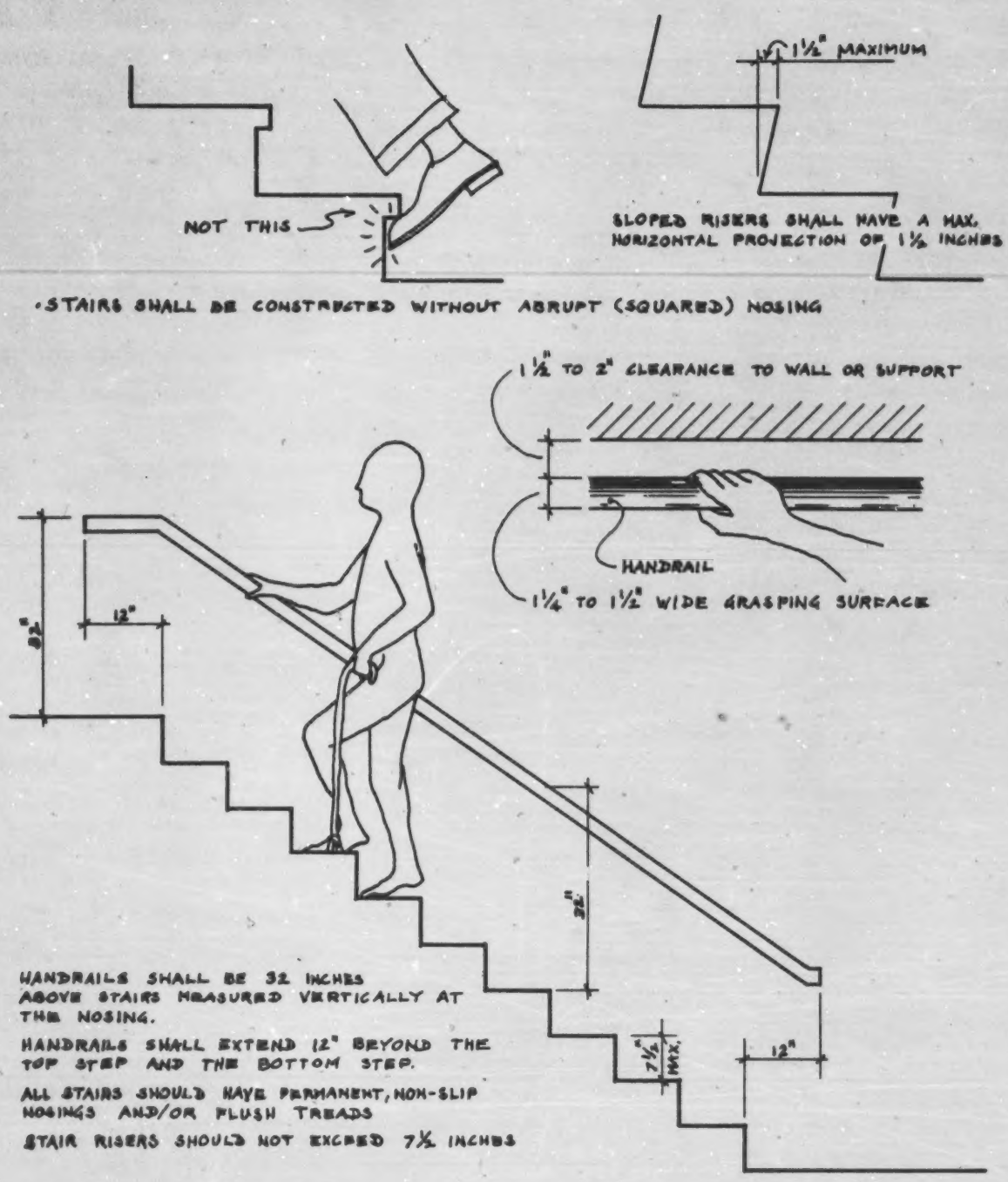

NOT THIS
1½" MAXIMUM
SLOPED RISERS SHALL HAVE A MAX. HORIZONTAL PROJECTION OF 1½ INCHES
•STAIRS SHALL BE CONSTRUCTED WITHOUT ABRUPT (SQUARED) NOSING
1½" TO 2" CLEARANCE TO WALL OR SUPPORT
HANDRAIL
1¼" TO 1½" WIDE GRASPING SURFACE
12"
32"
HANDRAILS SHALL BE 32 INCHES ABOVE STAIRS MEASURED VERTICALLY AT THE NOSING.
HANDRAILS SHALL EXTEND 12" BEYOND THE TOP STEP AND THE BOTTOM STEP.
ALL STAIRS SHOULD HAVE PERMANENT, NON-SLIP NOSINGS AND/OR FLUSH TREADS
STAIR RISERS SHOULD NOT EXCEED 7½ INCHES
7½" MAX.
12"

Figure 17. Public Stair Requirements

NOTE: i. Carpeting in public or general office area should be heavy duty type with a tight weave and low pile, preferably installed without padding.

ii. Floors of primary circulation paths should have a hard surface (such as vinyl asbestos tile) which permits easy movement of wheelchairs. Travel distance over carpeting required to reach such a path should not exceed 50 feet. (NOTE: This applies particularly to open space office areas where access paths through carpeted areas may be required.)

Explanation: Generally, all floors in public buildings leading to, or part of, public spaces are considered portions of the route of travel for the physically handicapped, and as such, must conform to the requirements of this Code.

17:19A-5.6 Elevators

(a) Every multi-storied building shall provide at least one elevator that is accessible to, and usable by, physically handicapped people with the following exceptions:

1. Business buildings with less than 6,000 square feet of total gross area at other than the principal entrance level.
2. Mezzanines less than 10,000 square feet in gross area in business or factory buildings.
3. Residential Buildings
   (a) 1 to 4-family residences.
   (b) Multi-family apartment house buildings less than four (4) stories where an elevator, if provided, would service no more than 4 dwelling units per floor.
   (b) Multi-family apartment house buildings of less than three (3) stories.
   (d) Two-story hotels and motels with fewer than forty (40) units per story.

(b) Elevators designated as accessible to, and usable by, the physically handicapped shall comply with Standards listed in Appendix "D".

1. Such elevators shall be identified by a plaque containing the International Symbol of Access. This plaque shall be done in relief and shall be located immediately adjacent to the floor call button. If a central floor call button is used (one call button for all elevators), then the plaque shall be located immediately adjacent to the elevator or elevators designated as accessible to, and usable by, the physically handicapped. (Figure 18.)
2. A qualifying elevator shall be either operated by a trained operator during the normal operating hours of the building, or it shall be of automatic type.
   If special key or part-time elevator attendant is required for operation of the elevator, an identified attendant call button shall be provided adjacent to the elevator.
3. The elevator shall provide stops at each story of the building, including stories used exclusively for the parking of automobiles, except that stops are not required at stories containing only mechanical equipment. (More than one elevator can be used to accomplish this requirement.)
4. An elevator, accessible to, and usable by, the handicapped, shall be provided between decks in grandstands, stadia, and arenas.

NOTE: Emergency use: Elevators cannot be considered as exits in an emergency. A definite plan is required to assist the physically handicapped, particularly those in wheelchairs. This might include alternate routes of exit, areas of refuge within the building, and the assistance of designated persons.

Explanation: Residential buildings, if not otherwise excepted, must still comply with other provisions of this Code for disabled access and use. The determination of elevator interior cab dimensions, notwithstanding the minimum specifications herein, should be related to anticipated use factors: greater numbers of persons expected to use elevators should increase interior cab dimensions accordingly. Consideration should also be placed on the clear floor space immediately adjacent to elevator doors; a five foot square clear space should be acknowledged to be a minimum specification.

PLAQUE IDENTIFYING ELEVATORS DESIGNATED AS ACCESSIBLE TO, AND USABLE BY THE PHYSICALLY HANDICAPPED SHALL:

- BE LOCATED ADJACENT TO SUCH DESIGNATED ELEVATORS
- INCORPORATE THE INTERNATIONAL ACCESS SYMBOL DONE IN RELIEF IN ITS DESIGN
- CALL BUTTON NUMERALS SHALL ALSO BE DONE IN RELIEF

Figure 18. Elevator Identification Plaque

17:19A-5.7 Public Toilet Rooms

In all public buildings, when such facilities are required by code, at least one toilet room for each sex at each floor where toilets are to be constructed shall comply with the following requirements:

(a) Toilet rooms shall have space to allow traffic of individuals in wheelchairs, in accordance with Appendix "C". See 5.3(h).

1. Entrance vestibules, doors and vision screens must allow sufficient clearance for wheelchair passage. Entrance doors must provide 32 inches clear opening minimum. (34 inches is preferable.)
2. Vestibule doors, if provided, must be at least 6 feet 6 inches apart. See Section 5.3(d). A minimum dimension of 18″ to adjacent wall is to be maintained on the pull side of doors to permit access by those in wheelchairs.
3. The room must contain a clear floor area of at least 60 x 60 inches to permit the turning of a wheelchair. (See Appendix "E"—Sketch 1.)
   Whenever, by UCC requirements, a single watercloset and a single lavatory are the only fixtures required in a public toilet room (whether in a single or multi-story buildings, regardless of gross floor area) and does not require separate privacy partitioning within the given facility, wheelchair access area is to be a minimum size of 32″x 60″. The public toilet room must also incorporate the necessary features a specified under 17:19A-5.7 (See Appendix "E"—Sketch 2.)

(b) Toilet rooms with stalls shall have at least one toilet stall that:

1. Is at least 5 feet wide and 5′-0″ deep. (See Appendix "E"—Sketch 1.)
   (An area of 60″x 60″ is required to permit turning of a wheelchair and lateral transfer to toilet.)

2. Has an entrance that provides a minimum clear opening of 32 inches.
3. If a door is used, it shall swing out from stall and not obstruct traffic outside the stall.
   i. Wherever doors are used on other stalls, they shall also be used on stalls accessible to, and usable by, handicapped people.
4. Has a water closet with the seat 16 to 18 inches (normal standard) from the finished floor.
   (If more than one Barrier-Free toilet room is being provided for each sex in a building, a toilet with seat at 20″ is to be provided at alternate toilet rooms to facilitiate use by those handicapped individuals that can be better accommodated by a higher seat.)
   i. The design and mounting of the water closet is of considerable importance. A wall-mounted water closet with a narrow understructure that recedes sharply is most desirable. If a floor-mounted water closet is used, it should not have a front that is wide and perpendicular to the floor at the front of the seat. The bowl should be shallow and the base should recede from the front to allow the individual in a wheelchair to get close to the water closet with the seat of the wheelchair.
5. Includes a water closet offset from the center of the stall with the center of the water closet 18 inches from the nearest adjacent wall or partition. (See Appendix "E"—Sketch 1.)
6. Includes a flushing mechanism other than foot-operated.
7. Includes the entrance to the stall offset from the center line of the water closet.

   (The center line of the stall door shall be no less than 24 inches from the center line of the water closet.)
   Distance of stall to opposite wall, basin, or other obstruction—42″ minimum.
8. Has a wall or floor (wall side) mounted grab bar, adjacent to the fixture, 33 inches high. The installed grab bar shall be capable of bearing a dead weight of 300 pounds without permanent deflection. The grab bar shall:

   i. Be 1-¼″ to 1½ inches in width; and
   ii. Have 1½″ to 2 inches clearance between rail and wall;
   iii. Be parallel to the floor;
   iv. Be fastened securely in order to bear dead weight of 300 pounds without permanent deflection; and
   v. Extend from the rear edge of the water closet to one (1) foot beyond the front edge of the water closet; (42″ minimal)
   vi. Grab bar should be non-slip, (embossed, etc.) (Figures 19, 20).

Explanation: This water closet stall design is quite spacious, thereby providing adequate interior stall mobility. With this design, physically handicapped persons confined to wheelchairs may accomplish transfer to the stall itself from a frontal position or laterally. Physically handicapped persons are entitled to the same privacy considerations as the non-handicapped; thus, it is recommended that stall doors be provided whenever possible. Consideration should also be accorded the inclusion of adequate clear floor space adjacent to the water closet stall for the handicapped.

(c) Public toilet rooms shall have at least one lavatory with a narrow apron mounted with 27 inches clearance from the finished floor to the bottom of the apron.
   1. Vanity type lavatories are acceptable if they meet the following requirements:
      i. Are provided with a 6 inch deep by 8¾ inch high toe space;

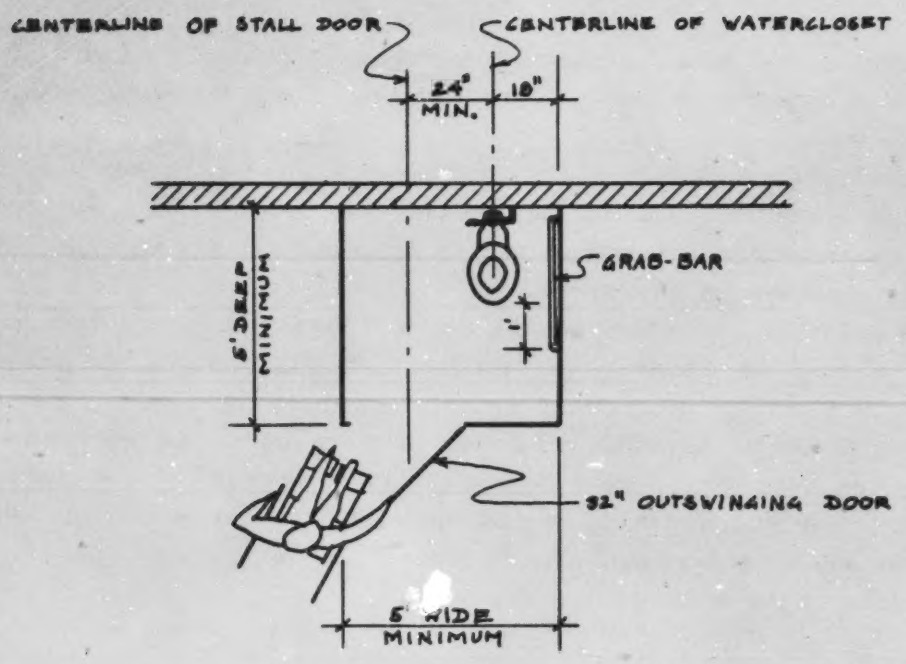


Figure 19. Public Toilet Stall Design

ii. Controls are located a maximum of 20 inches from the front edge of the vanity top; and

iii. Height of flood rim of lavatory above finished floor shall be 32 or 33 inches.

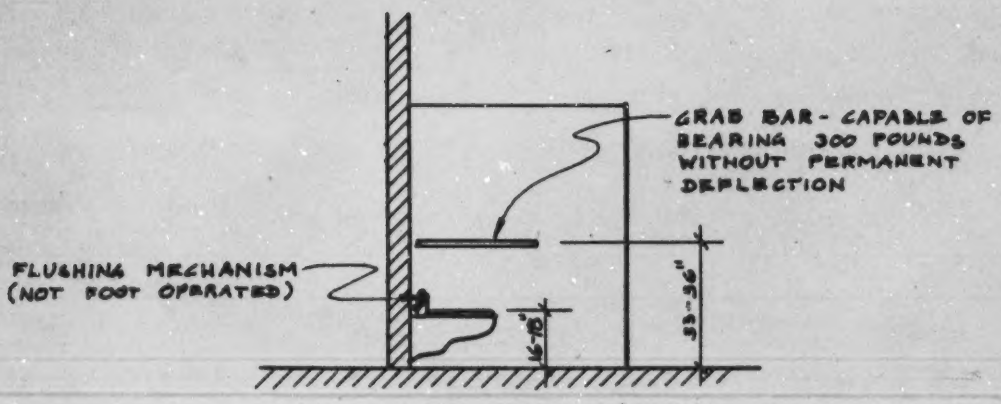
2. *It is preferred for lavatories accessible to, and usable by, the physically handicapped to have a single lever control.*

3. Easily operated with no self-closing faucets. Faucets shall have lever-type handles.

(d) So that a person without sensation in his legs will not burn himself, drainpipes and hot water pipes under a lavatory shall be covered or insulated. (Figure 21).

Explanation: Vanity-type lavatories would be difficult for certain severely disabled persons to use, since they permit only side access for some wheelchair users. The lavatory without vanity is usable by all, and preferred for this reason. Operating lever(s) of the wristblade type provide a good alternative for persons with upper-extremity impairment.

(e) In toilet rooms for men where urinals are provided, at least one wall-mounted urinal with elongated lip shall be installed with the opening of the basin 15 inches from the finished floor, or shall have floor-mounted urinals that are on level with the finished floor of the toilet room. Flushing mechanism not foot-operated.



HEIGHT OF TOILET SEAT AND GRAB BAR FOR USE BY PHYSICALLY HANDICAPPED PERSONS

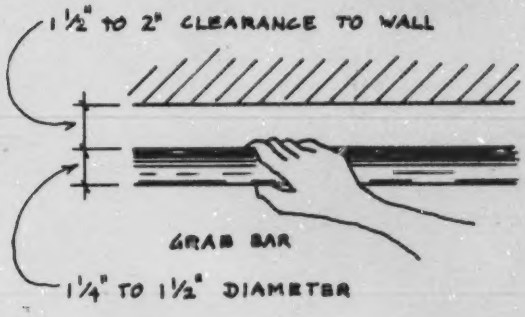
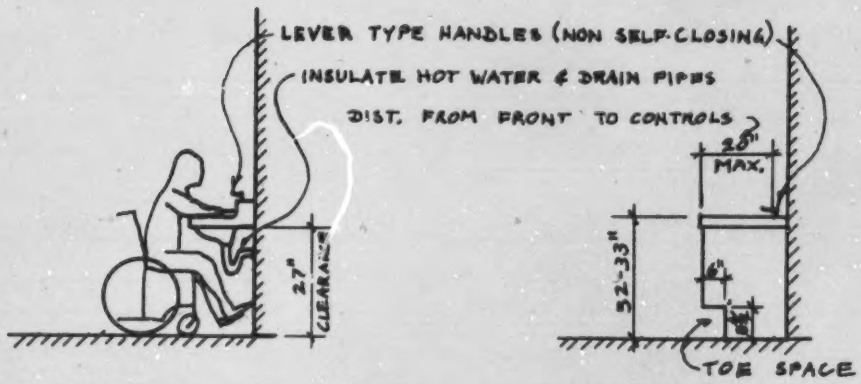


Figure 20. Grab Bar and Toilet Seat Requirements



LAVATORY WITH NARROW APRON

VANITY TYPE LAVATORY

Figure 21. Lavatory Requirements

(f) A right angle floor and/or wall-mounted metal grab bar shall be located next to one of the standard height urinals. The center line of this urinal to the center line of the bar shall be approximately 16 inches. (Figure 22).

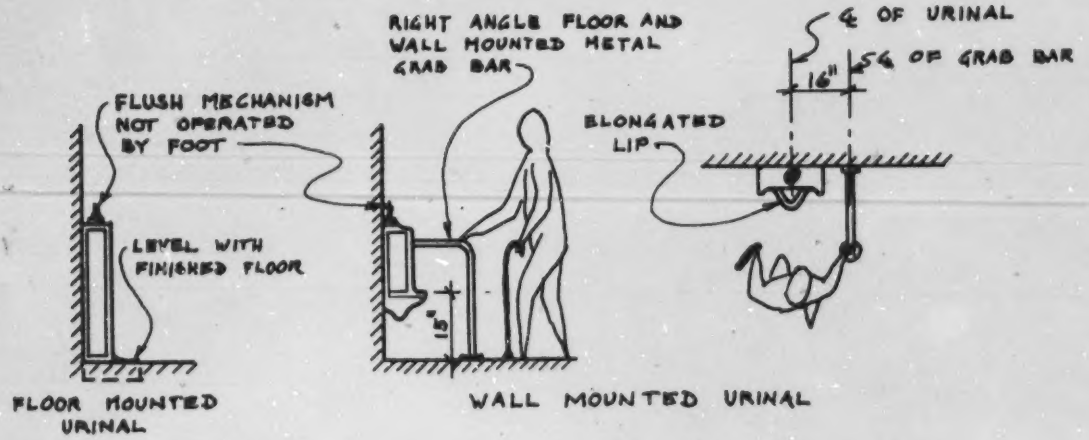


Figure 22. Male Urinal Requirements

(g) Where shower stalls are provided for public use, at least one shall be no less than 3 feet by 3 feet inside dimensions.

Showers for handicapped shall not contain curbs except that thresholds for entering and leaving showers may be used.

1. Thresholds shall be beveled with a maximum edge height of ¾ inch and not more than 45 degree slope.
2. Showers shall have a non-slip floor surface.
3. Where stall(s) is/are used, a seat shall be positioned 17 to 19 inches above the finished floor and may be hinged to fold back against the wall. Seat shall be 15 inches wide and full depth of stall.
4. A metal grab bar, 32 inches in height, shall be attached to the stall wall and/or floor on the shower side and shall extend around on the side of the wall, but not behind the seat.

   Where gang showers are provided, handrails are to be provided at a wall intersection adjacent to a shower fixture.
5. The grab bar shall be 1¼" to 1½ inches in width and have a clearance between rail and wall of 1½" to 2 inches.

   Grab bar should be non-slip, (embossed, etc.).
6. The water control shall be either single lever or blade type, with pressure balancing control, and mounted on the wall adjacent or opposite to the seat.

   i. A flexible hose with a hand shower spray is recommended in lieu of the standard shower head.
7. A soap tray shall be placed at a height not to exceed 40 inches above the finished floor and mounted adjacent to the seat. (Figure 23).

Explanation: The flexible hose shower spray is recommended whenever possible since it provides the physically handicapped person with a movable water source. This shower stall design could also be utilized in certain residential dwelling units for the physically handicapped as an alternative for those who have difficulty using a bathtub.

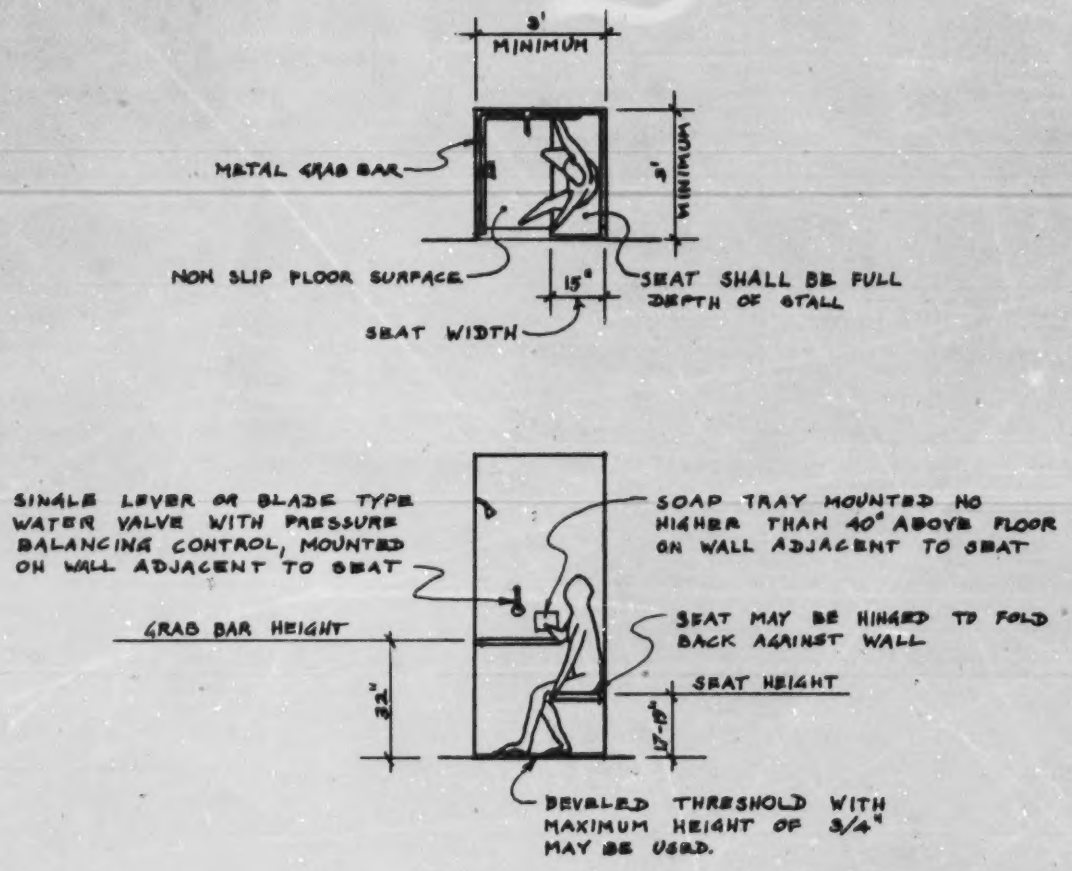

3'
MINIMUM
METAL GRAB BAR
9"
MINIMUM
NON SLIP FLOOR SURFACE
15"
SEAT SHALL BE FULL DEPTH OF STALL
SEAT WIDTH
SINGLE LEVER OR BLADE TYPE WATER VALVE WITH PRESSURE BALANCING CONTROL, MOUNTED ON WALL ADJACENT TO SEAT
SOAP TRAY MOUNTED NO HIGHER THAN 40" ABOVE FLOOR ON WALL ADJACENT TO SEAT
GRAB BAR HEIGHT
SEAT MAY BE HINGED TO FOLD BACK AGAINST WALL
SEAT HEIGHT
32"
17-19"
BEVELED THRESHOLD WITH MAXIMUM HEIGHT OF 3/4" MAY BE USED.

Figure 23. Shower Stall Requirements

(h) Public toilet room accessories:

1. Where towel racks, dispensers, disposal units, vending machines and appliances are provided in toilet rooms, one of each shall be mounted with all operating mechanisms (cranks, coin slots, buttons, etc.) and items themselves no more than 40 inches above finished floor.
2. At least one mirror shall be mounted with the bottom no higher than 40 inches from the finished floor. A tilted mirror placed at a height higher than 40 inches, may be substituted if it permits people in wheelchairs adequate sight.

   i. A full length mirror is an adequate alternative to 5.7(h)(2) and is preferred in each toilet room.
3. If shelves are provided, at least one shall be 40 inches from the finished floor. (Figure 24).

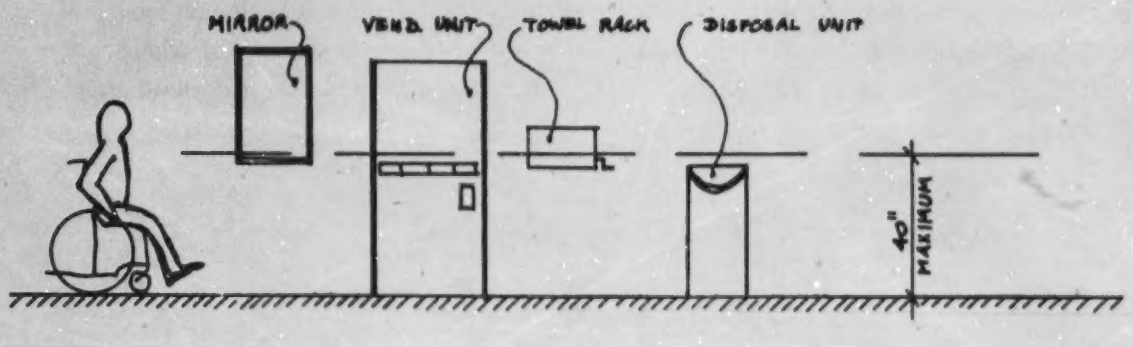


Figure 24. Toilet Room Accessory Requirements

17:19A-5.8 Water Fountains

(a) Wherever more than one water fountain or cooler is provided, at least one per floor shall meet the following requirements:

1. Water fountains or water coolers shall have upfront spouts and controls.
2. Water fountains or water coolers shall be free-standing or semi-recessed and shall be lever-handle operated, lever-handle and foot-operated, or push-button operated.
   i. Fully recessed water fountains are permitted provided a cup dispenser is part of the unit.
   ii. Water fountains or water coolers may be set into an alcove if the alcove is at least 32 inches wide.
3. Where more than a single fountain/cooler is used per floor, one unit shall have its rim no more than 34 inches above the finished floor. Where water fountain/coolers are higher than 34 inches, they shall have an additional small fountain mounted on the side of the cooler, with the rim of this fountain basin no higher than 30 inches above the finished floor, or an additional separate cooler shall be provided with its rim 30 inches above the finished floor.
4. Where only a single fountain/cooler is provided per floor or in existing buildings, undergoing substantial alterations, water fountain/coolers that are already installed and that do not meet the above requirements, a cup dispenser is to be installed. The cup dispenser shall be installed with its lower edge between 36 inches and 40 inches above the finished floor and immediately adjacent to the cooler. (Figure 25).

Explanation: The use of cup dispensers, although providing usability for the physically handicapped, adds a supply problem; when dispensers are emptied, such fountains are unusable. This notion is particularly applicable in the case of fully recessed drinking fountains. To provide the necessary hardware in drinking fountains as required by this Code is the preferred method.

17:19A-5.9 Laboratories & Shop Facilities

In all laboratory and shop facilities, at least one work station dimensioned to permit use by physically handcapped persons (see Appendix "C") shall be provided as follows:

(a) A work surface shall be provided with a 30 inch clearance from the bottom of the work surface to the finished floor so that it is sufficient for a wheelchair to drive in underneath. Knee space should be at least 28" wide.

(b) At least 3 feet of clear space shall be provided in and about the work area to provide mobility for a wheelchair. (Figure 26).

Explanation: Sufficient depth underneath the work surface must also be considered to accommodate the lower extremities of the physically handicapped person. The achievement of these requirements will not generally present great difficulty to the employer; however, additional amenities might be necessary for more severely handicapped workers.

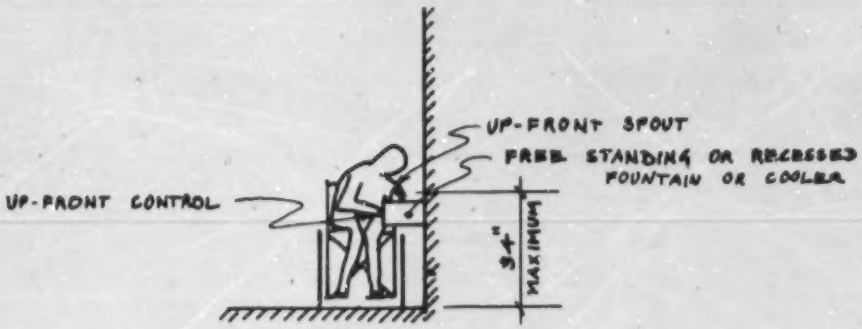


Figure 25. Drinking Fountain Requirements

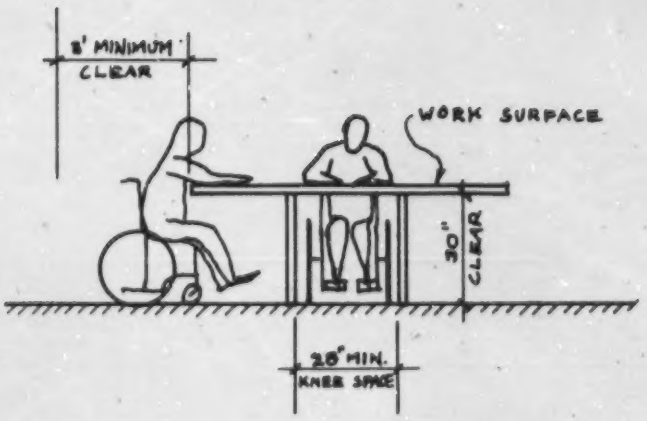


Figure 26. Work Surface Requirements

17:19A-5.10 Public Telephones

(a) All "banks" of public telephones (a bank consists of two or more public telephones in one area) shall have at least one telephone which can be used by the physically handicapped, including those in wheelchairs and those with hearing and sight disabilities.

(b) The following are minimum requirements:

1. The top of the coin slot shall be placed no higher than 48 inches above the finished floor (54" if lateral/side reach can be accomplished.)
2. The telephone shall be equipped with an adjustable volume control with instructions for use.
3. The dial shall be push-button type, where available, with numbers as large as possible in relief.
4. If a counter or other writing surface is provided, at least a portion of it shall have a clearance of 30 inches from the finished floor to the bottom of the writing surface.
5. If enclosed telephone booths are provided, at least one shall have the following:
   i. 42 inches clear floor space between walls;
   ii. 32 inches clear door opening with outswinging, sliding, or folding door;
   iii. Phone unit mounted on sidewall with the top of the coin slot placed no higher than 4 feet above the finished floor;
   iv. The telephone shall be equipped with an adjustable volume control with instructions for use;
   v. The telephone dial shall be push-button type, with numbers as large as possible in relief;
   vi. A seat, if provided should fold out of the way. (Figure 27).

Explanation: Even with the above requirements included, enclosed telephone booths would not be as easy to use for many disabled persons as wall mounted or pedestal-type telephones, provided the latter are constructed to these specifications. As such, they are preferred.

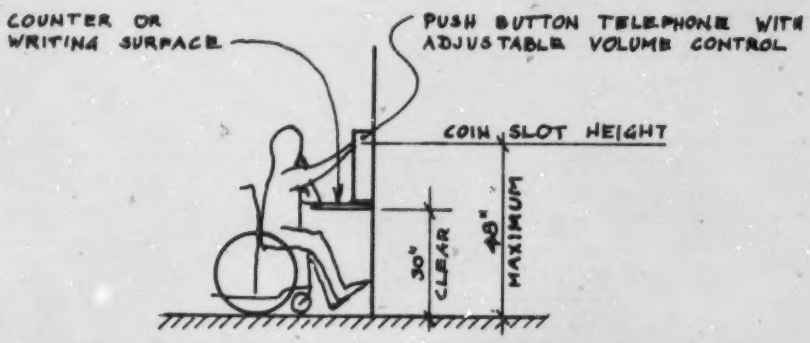


Figure 27. Public Telephone Designs

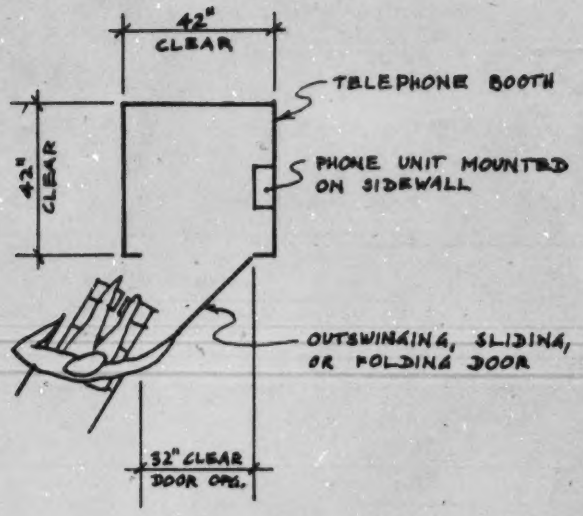


Figure 7. Public Telephone Designs

17:19A-5.11 Controls, Identification, Warning Signals, and Hazards

(a) All safety features or controls which are essential or frequently used, for example, fire extinguishers, and all control devices for light, power, heat, ventilation, windows, draperies, doors, and similar controls, shall be placed within reach of all handicapped persons. The maximum height from the finished floor at which these controls shall be placed is 4 feet.

(b) All warnings signals, when required, shall be equipped with both audible and visual signals.

(c) Doors leading to areas that may be dangerous to visually impaired persons, and not intended for normal use, such as boiler rooms, fire escapes, stages, loading platforms, etc., shall be equipped with identifiable door handles or knobs or have key-operated latching mechanism.

(d) Where signs identifying spaces such as rooms are provided, they shall have lettering/symbols at least ¾ inch high, done in relief. These signs shall be mounted with their horizontal center line 4 feet 6 inches above the finished floor. These signs shall be located on the door or the wall next to the door, on the side nearest the door handle or knob when the door is closed. Lettering shall be in contrasting colors. (Figure 28).

NOTE: i. Because they are hazardous to visually impaired people, objects between 4 and 7 feet from the finished floor (with the exception of doors) should not protrude into corridors, exitways, or traffic ways used by the general public.

ii. Low hanging projecting signs are particularly hazardous and as such should not exceed 6" in projection.

(e) Where signs identifying routes of travel within buildings are provided, they shall be located where a visually impaired person can "read them off" by touch. Such signs shall have lettering/symbols at least ¾ inch high, done in relief. These signs shall be mounted with their horizontal center line 4½ feet above the finished floor.

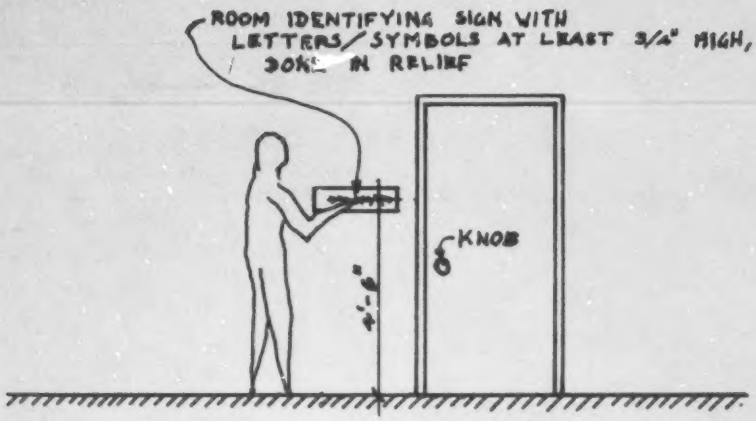


Figure 28. Identification Signs

(f) Warning devices shall be installed and barricades placed at least 8 feet from area of hazard when manholes or access panels are open or in use, and located in the normal pedestrian way.

(g) Where vision panels are used in corridor doors, they shall allow visibility to people in wheelchairs. Such vision panels shall be installed vertically on the knob side of door with the bottom of the panel no higher than 3 feet from the finished floor, the panel width not less than 3 inches, and the panel length not less than 30 inches. (Figure 29).

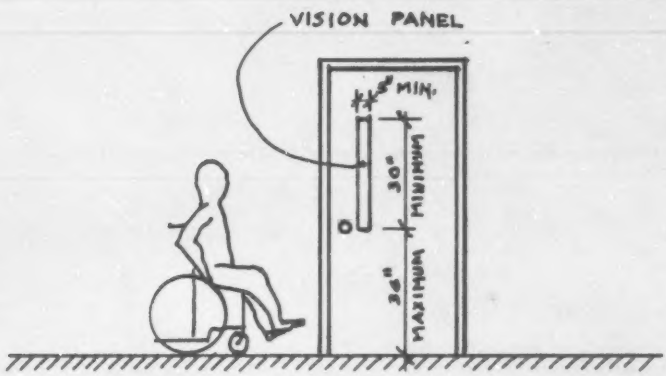


Figure 29. Vision Panel Requirements

To assist the visually impaired in their utilization of buildings, the following additional criteria are highly recommended:

(1) Glass doors and very large windows should have a colored band, or other device which can easily be seen against the background at a minimum of 3 feet above the finished floor.

(2) Circulation routes should be differentiated from other building areas by different colored flooring.

(3) Contrasting colors should be used to differentiate the space in front of elevators, the beginning and end of ramps, and the first and last steps of stairways.

(4) Obstacles such as information desks, signs, and columns should be avoided within circulation areas.

(5) Stairways and escalators should be located to minimize the risk of a visually impaired person falling down them. They should be placed perpendicular to or at the side of corridors and circulation routes.

(h) Symbol of Access

Buildings which are fully accessible to wheelchair users and others persons with limited mobility should display the International Symbol of Access at entrances to buildings, parking lots, toilet facilities, etc. (See Appendix "F".)

Explanation: The knurled or textured door handle is widely accepted as identifying hazardous areas to the visually handicapped. Consideration should also be given to the placement of electrical outlets, the bottom of which should be no lower than 18 inches from the finished floor.

17:19A-5.12 Public Assembly Areas

(a) All specifications within these regulations are applicable to public assembly buildings, structures, facilities, or areas unless otherwise excluded.

(b) In addition, the following specifications shall be met:

1. Handicapped seating shall be an integral part of the seating plan and not segregated. It shall be on a level with the primary entrance or connected to it by ramps or elevators.
   i. Wheelchair seating spaces should be located where floors can remain level as at cross aisles, front and rear areas, and boxes.
2. Spaces shall be alotted to accommodate individuals confined to wheelchairs. Such spaces shall be appropriate for viewing the type of events conducted. Such spaces shall allow for the addition of seating to accommodate companions of individuals in wheelchairs when such might be necessary or appropriate.
3. The following table lists the minimum number of required wheelchair viewing positions:

CAPACITY OF ASSEMBLY SPACES	REQUIRED NUMBER OF WHEELCHAIR SPACES
Up to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 1,000	2% of total, but not less than 5 (to the nearest whole number)
Over 1,000	20 plus 1 for each 100 over 1000 (to the nearest whole number)

i. The above space allocations do not include portable seating for persons accompanying wheelchair spectators.

4. In such facilities as auditoria and gymnasia, areas for participaton as well as for spectatorship shall be equally accessible in accord with the specifications of this Standard. This would include the stage of an auditorium or the playing floor of a gymnasium, and such supportive facilities as dressing rooms, shower rooms, locker rooms, route of travel, etc.
5. Where support facilities are located at basement or mezzanine levels not serviced by an elevator, this requirement can be met by construction of multi-purpose toilet/shower/locker facility at participation level.

Explanation: Dimensions for wheelchair viewing positions in Assembly occupancies should be a minimum of 3 feet in width and 5 feet in depth for each such viewing position.

17:19A-5.13 Special Use Spaces

(a) Dining Areas

1. Dining Areas must be directly accessible (i.e. not through kitchens) to wheelchair users.
   i. Serving line width between tray slide and control railing should be at least 36 inches.
   ii. Outside rail height of tray slide should be no greater than 34 inches.
   iii. There should be a clearance of at least 28 inches between the floor and the undersurface of the table top, unobstructed by fascias, skirts or bracing. (NOTE: It is not desirable to design or designate a limited number of tables in a dining room for use by the handicapped thus segregating them from the able-bodied population.)

(b) Libraries

1. Libraries must provide study carrels and tables which are accessible to wheelchair users.
   i. All tables should have a clear height of at least 28 inches to the underside of the work surface.
   ii. Aisles between stacks should be wide enough to allow wheelchair passage.

(c) Audio-Visual Control Rooms

1. Audio-Visual Control Rooms should have level or ramped access for wheelchairs. Aisles between equipment should be at least 36 inches wide.

Explanation: When designing special areas the standards in this code should be used to the maximum. The width of aisles should be at least 36 inches depending on the amount of traffic. Clearance underneath tables is also an important factor which would allow complete use of all facilities rather than certain areas containing accessible features. Total integration should be the ultimate goal.

SUBCHAPTER 6. REQUIREMENT FOR RESIDENTIAL OCCUPANCY

17:19A-6.1 Scope

All specifications within these regulations are applicable to: Apartments, Condominiums, Dormitories, Hotels, Motels and all other residential buildings except those listed in Subchapter 1-17:19A-1.2

Scope as being exempt.

(a) 2-1/2 Story (3) Story Residential Construction Dwelling units where exterior access is more than 1'6" above or below the lowest floor. Such units shall be exempt from the Barrier-Free allocation, but all units shall have minimal accessibility within the dwelling units themselves.

(b) 1-1/2 (2) story residential construction shall be treated in the same manner as 2-1/2 (3) story residential construction listed in 17:19A6.1-1 above.

Explanation: This residential housing refers to garden apartments which would not have to provide access or Barrier-Free apartments if exterior access is more than 18" above or below the lowest floor. Careful designing, planning and site development would allow this type of building to be accessible. The dewelling units would still contain minimal accessibility within.

17:19A-6.2 Standards

The following standards shall be met in addition to applicable standards under other subchapters:

(a) In non-elevator serviced buildings where the ground or first floor is 1'-3" or less above finished grade at any one point of access, Barrier-Free access for handicapped persons to all ground or first floor levels is to be provided. Such entrances are to meet Barrier-Free requirements except that:

1. Ramp is not to exceed 12'-0" in length.
2. Handrail requirements are wavied. (Figure 30).

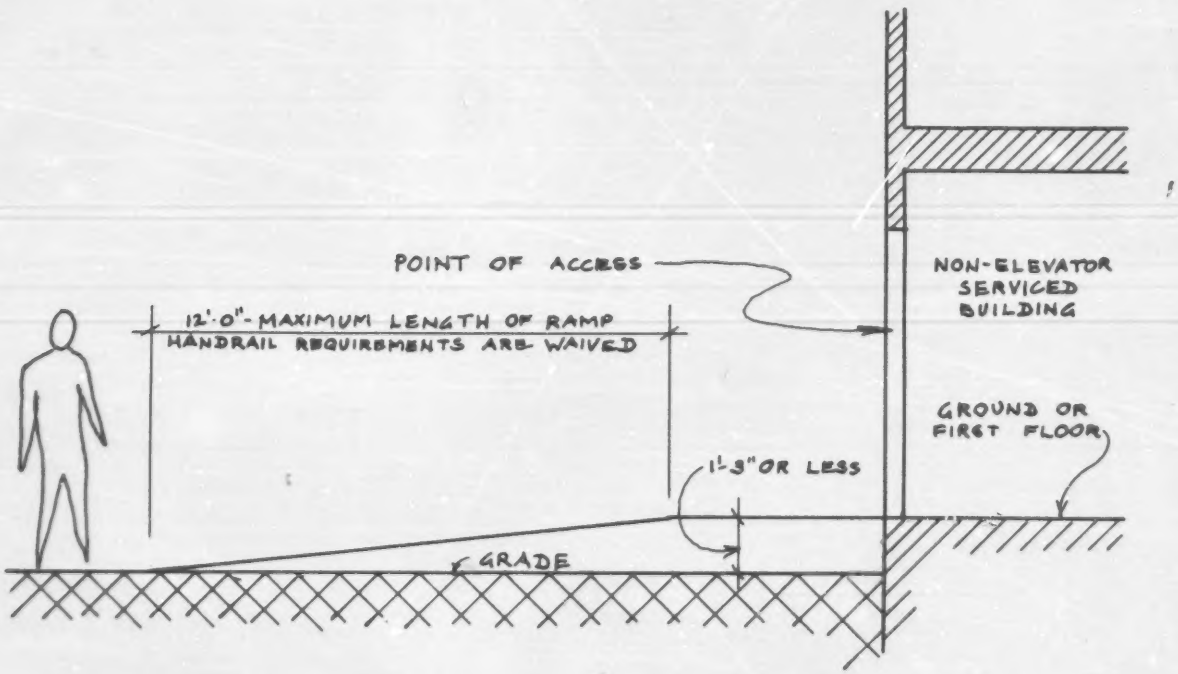


Figure 30. Access to Non-Elevator Residential Structures

Access within dwellings is to be as follows:

i. Four (4%) percent (or next highest percentage that will result in a full multiple) of all residential building dwelling units in a multi-dwelling project are to be constructed Barrier-Free.

NOTE: To the extent that Barrier (4%) Free units are required, they should be dispersed throughout a multi-unit project.

ii. Ninety-six (96%) percent (balance) of all residential dwelling units in a multiple dwelling unit are to provide minimal accessibility (see definitions 17:19A-2.19).

Explanation: If a non-elevator building has a ground or first floor that is 15 inches or less above the finished grade at any location then the building must provide access to the handicapped on the ground or first floor. It is recommended that all ramps adhere to the 1 in 12 formula when they are put into place. These buildings would still provide the 4% Barrie-Free allocation.

(b) Barrier-Free Residential Requirements

1. See Section 17:19A-5.2 for Entrance requirements.
2. See Section 17:19A-5.3 for Barrier-Free Door, Doorways, & Corridor requirements.
3. See Section 17:19A-5.4 for Stair requirements.
4. See Section 17:19A-5.5 for Floor (Interior) requirements.
5. Bathrooms: (Barrier-Free - 4%).

(a) Conform with all requirements of Subchapter 5.7, where applicable for at least one bathroom in all Barrier-Free dwelling units.

(b) Handrails are to be installed in accordance with Section 5.7 (b) 8.

(c) 5 foot by 5 foot clear floor space (see Appendix "E"- Sketch 1).

(d) If exposed, hot water lines and drains shall be insulated or required to contain a maximum water temperature of 120 degrees.

(e) Tubs shall have grab bars along one side and end. The grab bars shall be mounted 2 feet above the bottom of the inside of the tub, shall be one and one-half inches in diameter and shall have a one-to-one-half inch clearance from the wall. (Figure 31).

6. Kitchens (Barrier-Free — 4%)

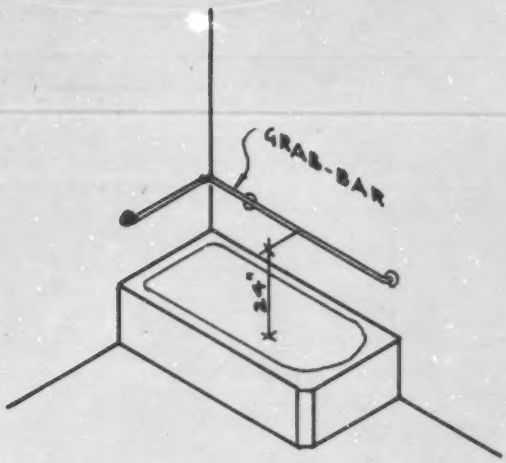
a. 5 foot by 5 foot clear floor space.

Space between cabinets or cabinets in walls may be (a) 4 feet provided two 6-inch deep by 8 and ¾-inch high toe spaces are installed to maintain 5 foot clearance at finished floor levels, or (b) 4 feet 6 inches with one 6-inch deep by 8¾-inch high toe space.

b. There shall be a 30-inch wide by 24-inch deep work area with a knee space clearance of 30 inches from the finished floor. The top of this work area shall not exceed 32 inches above finished floor. The work area may be built in, or the pull out type.

c. Ranges shall be either counter top or combination range/oven, drop-in type. If drop in, toe space shall be provided. All controls shall be up-front or side mounted at counter height so they can be operated without reaching over the burners.

The top of wall-hung oven housings should not exceed 32 inches above the finished floor.



BATHTUBS SHALL HAVE GRAB BARS ALONG ONE SIDE AND END
GRAB BARS SHALL BE MOUNTED 24" ABOVE BOTTOM INSIDE OF TUB

Figure 31. Bath Tub Requirements

d. All controls for disposal units, washers, dryers and other equipment, if provided, should be at counter height or on front panel of the unit. Washers and dryers should be front-loaded.

e. Sinks

1. Sink depth shall be a maximum of 5 inches; and sink shall have single lever control.
2. Sink and adjacent counter to be adjustable in height (top) to 32" or 36". (Normal wheelchair counter height 32".)
3. Sink cabinets should be provided with a removable assembly of front panel, doors and raised platform which, when removed, will leave for the handicapped a minimum knee space 30 inches wide and 30 inches clear above finished floor at front edge of sink.
4. When knee space is provided, insulate drains and lines, and install as far back as possible from the front of the cabinets.

7. Refrigerator, if provided, shall be fully self-defrosting, and should be side-by-side type freezer -refrigerator or compact type (57" maximum height) top freezer-refrigerator combination. (Figure 32)
8. Cabinets:
   a. Shelves shall be adjustable.
   b. Wall cabinets to be installed 16" above counter top. (Figure 33)

NOTE: Consideration should be given to providing a section of the kitchen cabinet assembly which could be made adaptable to usage by the handicapped. Such a section would provide 32-inch maximum work surface height.

9. Closets:
   a) Hanging poles shall be adjustable to 4 feet above finished floor.

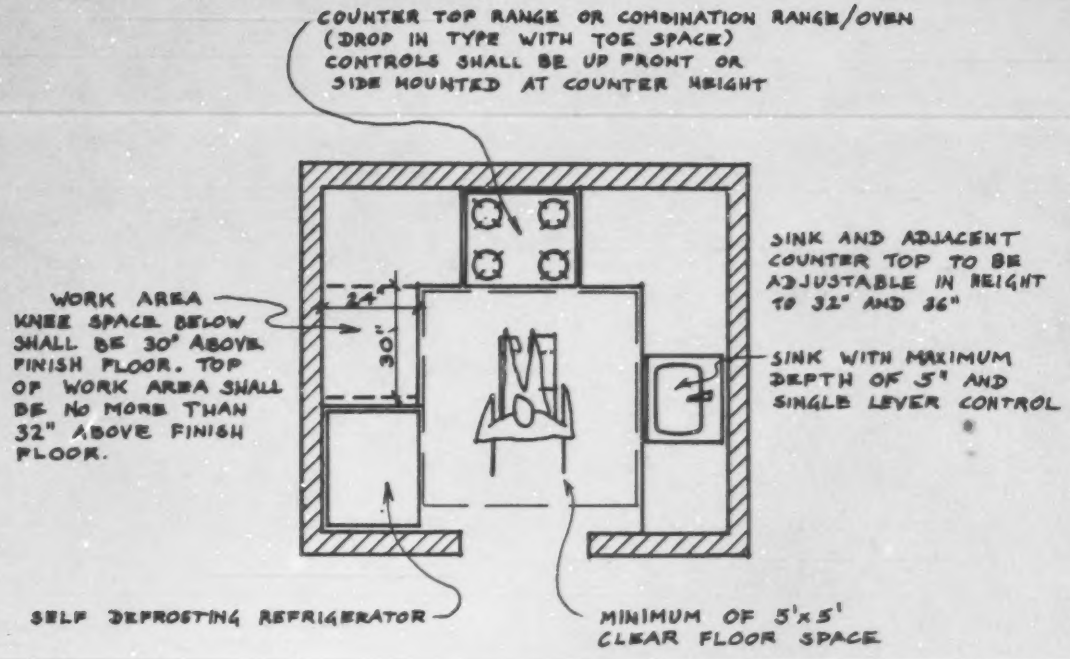

COUNTER TOP RANGE OR COMBINATION RANGE/OVEN (DROP IN TYPE WITH TOE SPACE) CONTROLS SHALL BE UP FRONT OR SIDE MOUNTED AT COUNTER HEIGHT
SINK AND ADJACENT COUNTER TOP TO BE ADJUSTABLE IN HEIGHT TO 32" AND 36"
WORK AREA KNEE SPACE BELOW SHALL BE 30" ABOVE FINISH FLOOR. TOP OF WORK AREA SHALL BE NO MORE THAN 32" ABOVE FINISH FLOOR.
24"
30"
SINK WITH MAXIMUM DEPTH OF 5" AND SINGLE LEVER CONTROL
SELF DEFROSTING REFRIGERATOR
MINIMUM OF 5'x5' CLEAR FLOOR SPACE

Figure 32. Barrier-Free Kitchen Requirements

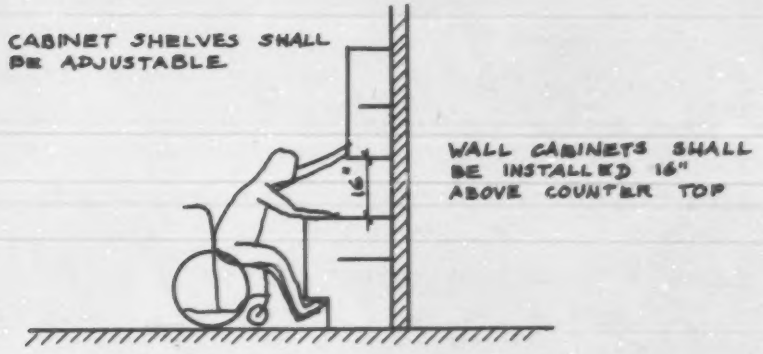


Figure 33. Kitchen Cabinet Requirements

b) Shelves above hanging pole shall be adjustable to four feet four inches above finished floor. (Figure 34)

NOTE: Pantries, cabinets, broom closets, linen closets, and similar shallow spaces may have narrower doors, but only if objects inside such shallow spaces can comfortably be reached from outside the area by a person in a wheelchair. (See Appendix "C".)

Explanation: These Barrier-Free Residential requirements must be incorporated into all the apartments that make up the 4% Barrier-Free allocation. These provisions are extensive and cover all aspects of the dwelling unit. These units should be dispersed throughout a multi-unit project; in that way the handicapped aren't segregated and have a choice of units.

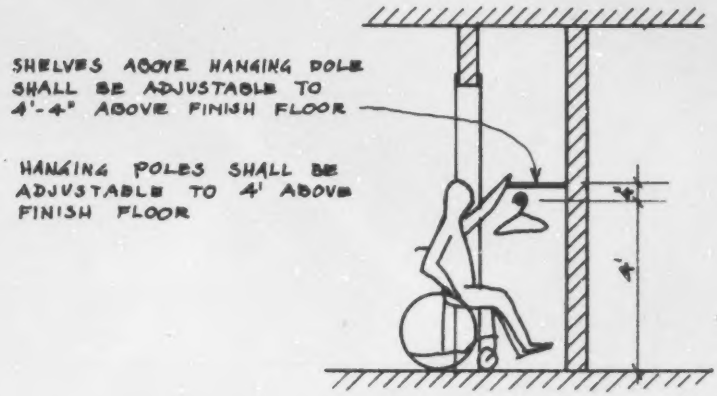

SHELVES ABOVE HANGING POLE SHALL BE ADJUSTABLE TO 4'-4" ABOVE FINISH FLOOR
HANGING POLES SHALL BE ADJUSTABLE TO 4' ABOVE FINISH FLOOR

Figure 34. Closet and Shelf Requirements

c. Minimal Accessibility Residential Requirements

1. Interior passage and bathroom doors shall provide a clear opening of no less than 30" when the door is open (32" door).
2. Corridor width to be a minimum of 36".
3. Bathrooms
   a. Minimum size 60" x 60" with clear access area at entrance of 32" x 60" (door opening out).
   b. Bathrooms shall be constructed so that grab bars can be installed next to the water closet. (See Appendix E - Sketch 2.)
   c. Tubs shall have grab bars along one side and end. The grab bars shall be mounted 2 feet above the bottom of the inside of the tub, shall be one and one-half inches in diameter and shall have a one -and-one -half inch clearance from the wall.
4. Kitchens
   a. 5 foot by 5 foot clear floor space.
   Space between cabinets or cabinets in walls may be (a) 4 feet provided two 6-inch deep by 8¾-inch high toe spaces are installed to maintain 5 foot clearance at finished floor levels, or (b) 4 feet 6 inches with one 6-inch deep by 8¾-inch high toe space.
   b. Sink unit to be so designed as to permit removal and replacement with sink 32" above finished floor. (Plumbing will have to be installed at such level so as to permit dropping of sink at a future date.)

Explanation: These requirements apply to all residential construction, other than the listed exemptions and the 4% earmarked barrier-free. These are minimum provisions which would allow the active handicapped a living place where they could function with only a minimum amount of difficulty. These units which make up 96% of units built would provide much additional housing for those who aren't able to get a totally barrier-free apartment but could function with this minimum amount of accessibility.

Subchapter 7. RECREATION

Regulations not promulgated at this time.

END OF BARRIER-FREE REGULATIONS

APPENDIX A

CHAPTER 220 – LAWS OF NEW JERSEY 1975
APPROVED OCTOBER 8, 1975

AN ACT to amend and supplement "An act to provide facilities for the physically handicapped in public buildings," approved July 27, 1971 (P.L. 1971, c. 269).

BE IT ENACTED by the Senate and General Assembly of the State of New Jersey:

1. Section 1 of P.L. 1971, c. 269 (C.52:32–4) is amended to read as follows:

1. Except as otherwise provided by law, all plans and specifications for the construction or remodeling of any public building in the State . . . shall provide facilities for the physically handicapped.

2. Section 2 of P.L. 1971, c. 269 (C.52:32–5) is amended to read as follows:

2. The Department of the Treasury shall, from time to time, promulgate guidelines which shall prescribe the kinds, types and quality of such facilities for the physically handicapped. . .

3. (New section) As used in this act:

a. "Public building" means any building structure, facility or complex used by the general public, including, but not limited to, theaters, concert halls, auditoriums, museums, schools, libraries, recreation facilities, public transportation terminals and stations, factories, office buildings, business establishments, passenger vehicle service stations, shopping centers, hotels or motels, and public eating places, constructed by any State, county or municipal government agency or instrumentality or any private individual, partnership, association or corporation, with the following exceptions: one- to four-family private residences; warehouse storage areas; and all buildings classified as hazardous occupancies. As used herein, "hazardous occupancy" means the occupancy or use of a building or structure or any portion thereof that involves highly combustible, highly flammable, or explosive material, or which has inherent characteristics that constitute a special fire hazard.

b. "Physical handicap" means a physical impairment which confines a person to a wheelchair; causes a person to walk with difficulty or insecurity; affects the sight or hearing to the extent that a person functioning in public areas in insecure or exposed to danger; causes faulty coordination; or reduces mobility, flexibility, coordination and perceptiveness to the extent that facilities are needed to provide for the safety of that person.

c. "Remodel" means, with respect to an existing public building as defined in this act, to construct in addition, alter the design or layout of said public building so that a change or modification of the entrance facilities, toilet facilities, or vertical access facilities is achieved, or make substantial repairs or alterations. As used herein, "substantial repairs or alterations" shall mean that if the cost of making such repairs or alterations, as determined by the building department or, with respect to State buildings, the Division of Building and Construction in the Department of the Treasury:

(1) Shall exceed 60% of the "assessed" value of the building, the entire building shall be made to comply with the requirements of this act;

(2) Shall be between 30 and 60% of the "assessed" value of the building, only those portions of the building repaired or altered shall be made to comply with the requirements of this act; or

(3) Shall be under 30% of the "assessed" value of the building, such repairs or alterations shall be either in accordance with the requirements of this act, or in compliance with their previously required condition and with the same or equivalent material or equipment, provided the general safety and public welfare are not thereby endangered.

d. "Office building" means a building or structure of more than 10,000 square feet of gross floor area wherein commercial or business activity or service is performed or a profession is practiced, or wherein any combination thereof is performed or practiced in all or the majority of such building or structure.

e. "Building department" means the municipal department, bureau or administrative official charged with the enforcement of laws or ordinances regulating the erection or construction of buildings.

4. (New section) The administration and enforcement of this act shall:

a. With respect to public buildings proposed for construction or remodeling by the State, be vested in the Division of Building and Construction in the Department of the Treasury; and

b. With respect to all other public buildings proposed for construction or remodeling, be vested in the building department of the municipality having jurisdiction over said public buildings.

The Division of Building and Construction or said municipal building department shall determine whether a proposed structure, or an existing structure undergoing remodeling, shall be considered a public building within the meaning of this act and shall ensure, upon such determination, that the design of any such building complies with the requirements of this act.

5. (New section) In cases of practical difficulty, the administrative authorities responsible for the enforcement of this act may grant exceptions from the specific requirements of the standards and specifications required by this act or permit the use of other methods or materials, but only when it is clearly evident that equivalent facilities and protection for the physically handicapped are thereby secured.

6. (New section) Exceptions based on practical difficulty, unnecessary hardship or extreme differences shall apply to the specific requirement in question, and shall not extend to all requirements of the standards and specifications mandated by this act.

7. (New section) No certificate of use or occupancy shall be issued by any municipal building department for any public building constructed or remodeled in the State unless and until said public building complies with the requirements of this act, except as provided in sections 5 and 6 hereof.

8. (New section) The provisions of this act shall not apply to the construction or remodeling of public buildings when contracts for the actual construction or remodeling thereof have been entered into prior to the effective date of this act.

9. This act shall take effect immediately.

APPENDIX B

BARRIER-FREE REGULATIONS
LIST OF REFERENCES

The use of these six references in the preparation of Barrier-Free regulations does not infer complete conformance therewith. Where conflict occurs, the provisions of Barrier-Free regulations takes precedence, unless otherwise stated.

Barrier-Free regulations are subject to periodic review and amendment to meet changing economic conditions or technical progress.

Users of Barrier-Free regulations or other references are cautioned to secure the latest editions or amendments.

1. An Illustrated Handbook of the Handicapped Section of the North Carolina State Building Code. 1974.

   North Carolina Department of Insurance
   P.O. Box 26387, Raleigh, North Carolina 27611
   Telephone: 919 / 829-3901

2. Barrier-Free Site Design

   The U.S. Department of Housing and Urban Development & Research

3. The Boca Basic Building Code/1975. Sixth Edition.

   Building Officials & Code Administrators International Inc.
   1313 East 60th Street
   Chicago, Ill. 60637
   Telephone: 312 / 947-2580

4. Into the Mainstream — A Syllabus for a Barrier-Free Environment.

   Department of Health, Education and Welfare
   Washington, D.C. 20201

   For sale by:
   Superintendent of Documents
   U.S. Government Printing Office
   Washington, D.C. 20402

5. Technical Handbook for Facilities — Engineering & Construction Manual
   Part 4 — Architectural — Section 4:12: Design of Barrier-Free Facilities

   Office of Architectural & Engineering Services
   OFEPM/DHEW
   330 Independence Avenue, S.W.
   Washington, D.C., 20201

6. Suggested Minimum Passenger Elevator Requirements for the Handicapped

   National Elevator Industry, Inc.
   600 Third Avenue
   New York, N.Y. 10016
   Telephone: 212 / 986-1545

APPENDIX C

WHEELCHAIRS AND CRUTCHES

1. WHEELCHAIR SPECIFICATIONS

The collapsible-model wheelchair of tubular metal construction with plastic or fiber upholstery for back and seat is most commonly used. A standard model of all manufacturers falls within the following limits, which were used as the basis of consideration. This information will be standard for many wheelchairs, but should not be considered standard for every wheelchair.

a. Length: 42 inches
b. Width, when open: 25 inches
c. Height of seat from floor: 19½ inches
d. Height of arm rest from floor: 29 inches
e. Height of pusher handles (rear) from floor: 36 inches
f. Width, when collapsed: 11 inches

2. THE FUNCTIONING OF A WHEELCHAIR

Because wheelchairs do differ in size, all of the information contained herein is approximate, not absolute.

a. Excluding toe space, the fixed turning radius of a standard wheelchair, wheel to wheel, is 18 inches. The fixed turning radius, front structure to rear structure, is 31.5 inches.
b. Excluding toe space, the average turning space required (180 and 360 degrees) is 60 by 60 inches.
   i. Actually, a turning space that is longer than it is wide, specifically, 63 by 56 inches, is more workable and desirable. In an area with two open ends, such as might be the case in a corridor, a minimum of 54 inches between two walls would permit a 360 degree turn.
c. A minimum width of 60 inches is required for two individuals in wheelchairs to pass each other.

3. THE ADULT INDIVIDUAL FUNCTIONING IN A WHEELCHAIR

Extremely small, large, strong, or weak and involved individuals could fall outside the ranges in 3 (a), 3 (b), 3 (c), and their reach could differ from the figure given in 3 (d). However, these reaches were determined using a large number of individuals who were functionally trained, with a wide range in individual size and involvement.

a. The average unilateral vertical reach is 60 inches and ranges from 54 inches to 78 inches.
b. The average horizontal working (table) reach is 30.8 inches and ranges from 28.5 inches to 33.2 inches.
c. The bilateral horizontal reach, both arms extended to each side, shoulder high, ranges from 54 inches to 71 inches and averages 64.5 inches.
d. An individual reaching diagonally, as would be required in using a wall-mounted dial telephone or towel dispenser, would make the average reach (on the wall) 48 inches from the floor.

4. THE INDIVIDUAL FUNCTIONING ON CRUTCHES

Most individuals ambulating on braces or crutches, or both, or on canes are able to manipulate within the specifications prescribed for wheelchairs, although doors present quite a problem at times. However, attention is called to the fact that a crutch tip extending laterally from an individual is not obvious to others in heavily trafficked areas, certainly not as obvious or protective as a wheelchair and is, therefore, a

source of vulnerability.

a. On the average, individuals 5 feet 6 inches tall require an average of 31 inches between crutch tips in the normally accepted gaits.

b. On the average, individuals 6 feet 0 inches tall require an average of 32.5 inches between crutch tips in the normally accepted gaits.

c. Some cerebral palsied individuals, and some severe arthritics, would be extreme exceptions to 4 (a) and 4 (b).

APPENDIX D

ELEVATOR REQUIREMENTS

Portions of elevator requirements listed on following pages have been adopted from SUGGESTED MINIMUM PASSENGER ELEVATOR REQUIREMENTS FOR THE HANDICAPPED, dated July 1976 as prepared by the NATIONAL ELEVATOR INDUSTRY, INC.

CONTENTS

	Paragraph
INTRODUCTION — APPENDIX "D" ELEVATOR REQUIREMENTS	
CONTENTS	
OPERATION & LEVELING	1
DOOR OPERATION	2
DOOR SIZE	3
DOOR PROTECTIVE & REOPENING DEVICE	4
DOOR DELAY (PASSENGER SERVICE TIME)	5
HALL CALL	
CAR CALL	
CAR INSIDE	6
CAR CONTROLS	7
CAR POSITION INDICATOR & SIGNAL	8
TELEPHONE OR INTERCOMMUNICATING SYSTEM	9
FLOOR COVERING	10
HANDRAILS	11
MINIMUM ILLUMINATION	12
HALL BUTTONS	13
HALL LANTERN	14
DOOR JAMB MARKING	15
EMERGENCY USE	16
COMPOSITE SKETCH	18

1. OPERATION & LEVELING

The elevator shall be provided with a self-leveling feature that will automatically bring the car to the floor landings within tolerance of ± (½) inch under normal loading and unloading conditions. This self-leveling shall within its zone, be entirely automatic and independent of the operating device and shall correct for overtravel or undertravel. The car shall also be maintained approximately level with the landing irrespective of load.

2. DOOR OPERATION

Power operated horizontally sliding car and hoistway doors opened and closed by automatic means shall be provided.

For detailed requirements, see the latest edition of ANSI A 17.1.

3. DOOR SIZE

Minimum clear width for elevator doors shall be 32 inches.

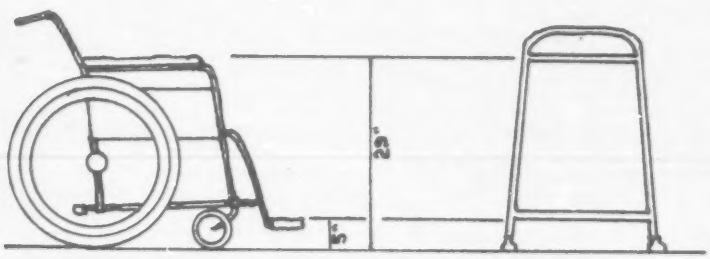
4. DOOR PROTECTIVE & REOPENING DEVICE

Doors closed by automatic means shall be provided with a door reopening device which will function to stop and reopen a car door and adjacent hoistway door in case the car door is obstructed while closing. This reopening device shall also be capable of sensing an object or person in the path of a closing door without requiring contact for activation at a nominal 5 and 29 inches above the floor.

Door reopening devices shall remain effective for a period of not less than 6 seconds. After this time, doors may close in accordance with the latest edition of ANSI A 17.1.

NOMINAL = ± 1 inch.

NOTE: Wheelchair and walker manufacturers should be required to provide some solid material as shown at 5 and 29 inches to insure door reversal of a closing door in the path of a wheelchair or walker before the contact.

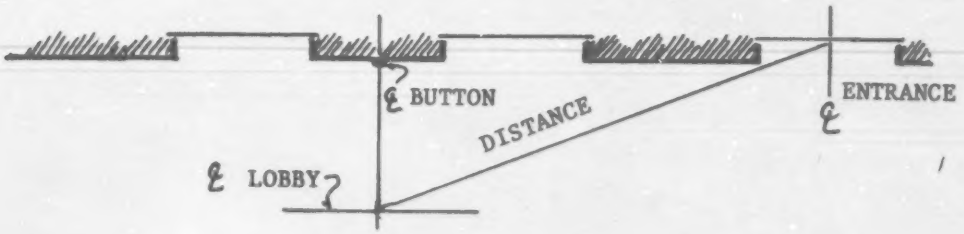


5. DOOR DELAY (PASSENGER SERVICE TIME)

HALL CALL: The minimum acceptable time from notification that a car is answering a call (Lantern and Audible Signal) until the doors of that car start to close shall be as indicated in Table.

DISTANCE IN FEET	TIME
0 to 5	4 Sec.
10	7 Sec.
15	10 Sec.
20	13 Sec.

The distance shall be established from a point in the center of the corridor or lobby (maximum 5 feet) directly opposite the farthest hall button to the centerline of the hoistway entrance.



CAR CALL: The minimum acceptable time for doors to remain fully open shall be not less than 3 seconds.

6. CAR INSIDE

The minimum clear distance between walls or between wall and door excluding return panels shall be not less than 56" x 44" *(Minimal Accessibility).*

7. CAR CONTROLS

Controls shall be readily accessible from a wheelchair upon entering an elevator.

The centerline of the alarm button and emergency stop switch shall be at a nominal (35) inches and the highest floor buttons no higher than (48) inches from the floor (54 inches if lateral/side reach from wheelchair is obtainable). Floor registration buttons, exclusive of border, shall be a minimum of (¾) inch in size, raised, flush or recessed. Visual indication shall be provided to show each call registered and extinguished when call is answered. Depth of flush or recessed buttons when operated shall not exceed 3/8".

Markings shall be adjacent to the controls on a contrasting color background to the left of the controls.

Letters or numbers shall be a minimum of (½) inch high and raised or recessed .030 inch.

Applied plates permanently attached shall be acceptable.

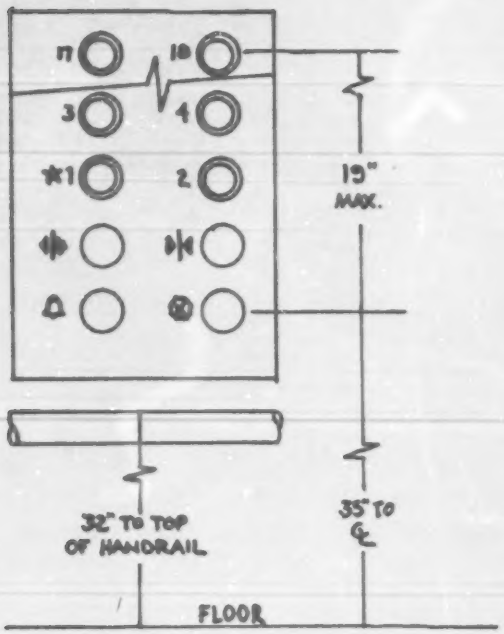
Emergency controls shall be grouped together at the bottom of the control panel.

Symbols as indicated shall be used to assist in readily identifying essential controls.

If two control panels are provided, only one has to comply with mounting height requirements.

Controls not essential to the automatic operation of the elevator may be located as convenient.

NOMINAL = ± 1 inch.



CAR CONTROL
SYMBOL DESIGNATION

DOOR OPEN

DOOR CLOSE

ALARM BELL

EMER. STOP

DESIGNATES MAIN ENTRANCE & EGRESS FROM BUILDING

8. CAR POSITION INDICATOR & SIGNAL

A car position indicator shall be provided above the car operating panel or over the opening of each car to show the position of the car in the hoistway by illumination of the indication corresponding to the landing at which the car is stopped or passing.

Indications shall be on a contrasting color background and a minimum of ¼-inch in height.

In addition, an audible signal shall sound to tell a passenger that the car is stopping.

9. TELEPHONE OR INTERCOMMUNICATING SYSTEM

If a telephone is provided, it should be located a maximum of (48) inches from the floor (minimum cord length 36".

Markings or the international symbol for telephones shall be adjacent to the control on a contrasting color background. Letters or numbers shall be a minimum of (½)-inch high and raised or recessed (.030) inch. Applied plates permanently attached shall be acceptable.

10. FLOOR COVERING

Floor covering should have a non-slip hard surface which permits easy movement of wheelchairs.

If carpeting is used, it should be securely attached, heavy duty with a tight weave and low pile, installed without padding.

11. HANDRAILS

Handrails shall be provided on all walls of cars except where doors occur. Rails shall be smooth and the inside surface at least (1½) inches clear of the walls at a nominal height of 32 inches from the floor.

NOMINAL = ± 1 inch.

NOTE: (32) inches required to reduce interference with car controls where lowest button is centered at 35 inches above floor.

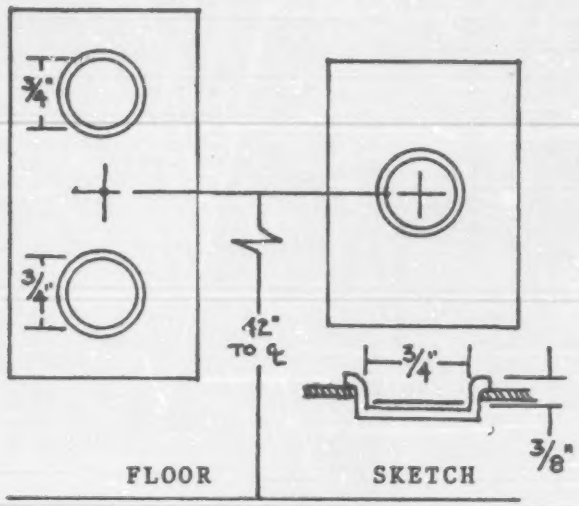
12. MINIMUM ILLUMINATION

Minimum illumination at the car controls and the landing when the car and landing doors are open shall be not less than (5) foot candles. See latest edition of ANSI A 17.1.

13. HALL BUTTONS

The centerline of the hall call buttons shall be a nominal 42 inches above the floor.

Direction buttons, exclusive of border, shall be a minimum of (¾) inch in size, raised, flush or recessed. Visual indication shall be provided to show each call registered and extinguished when the call is answered. Depth of flush or recessed buttons when operated shall not exceed 3⅛8" (see Sketch).



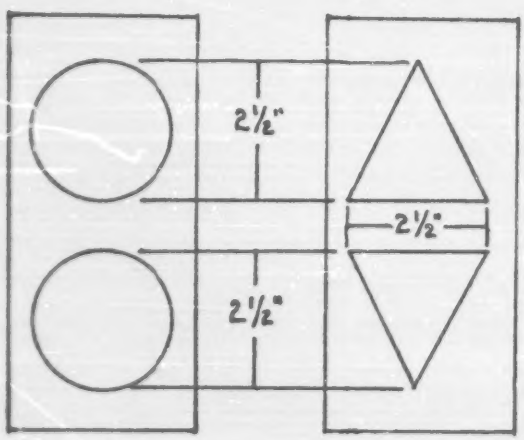
14. HALL LANTERN

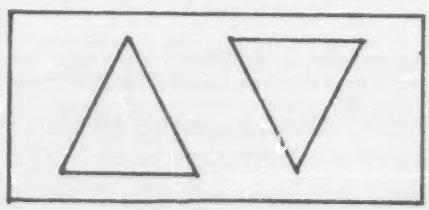
A visual and audible signal shall be provided at each hoistway entrance indicating to the prospective passenger, the car answering the call and its direction of travel.

The visual signal for each direction shall be a minimum of 2½ inches in size and visible from the proximity of the hall call button.

The audible signal shall sound once (1) for the up direction and twice (2) for the down direction.

The centerline of the fixture shall be located a minimum of (6) feet from the floor.





15. DOOR JAMB MARKING

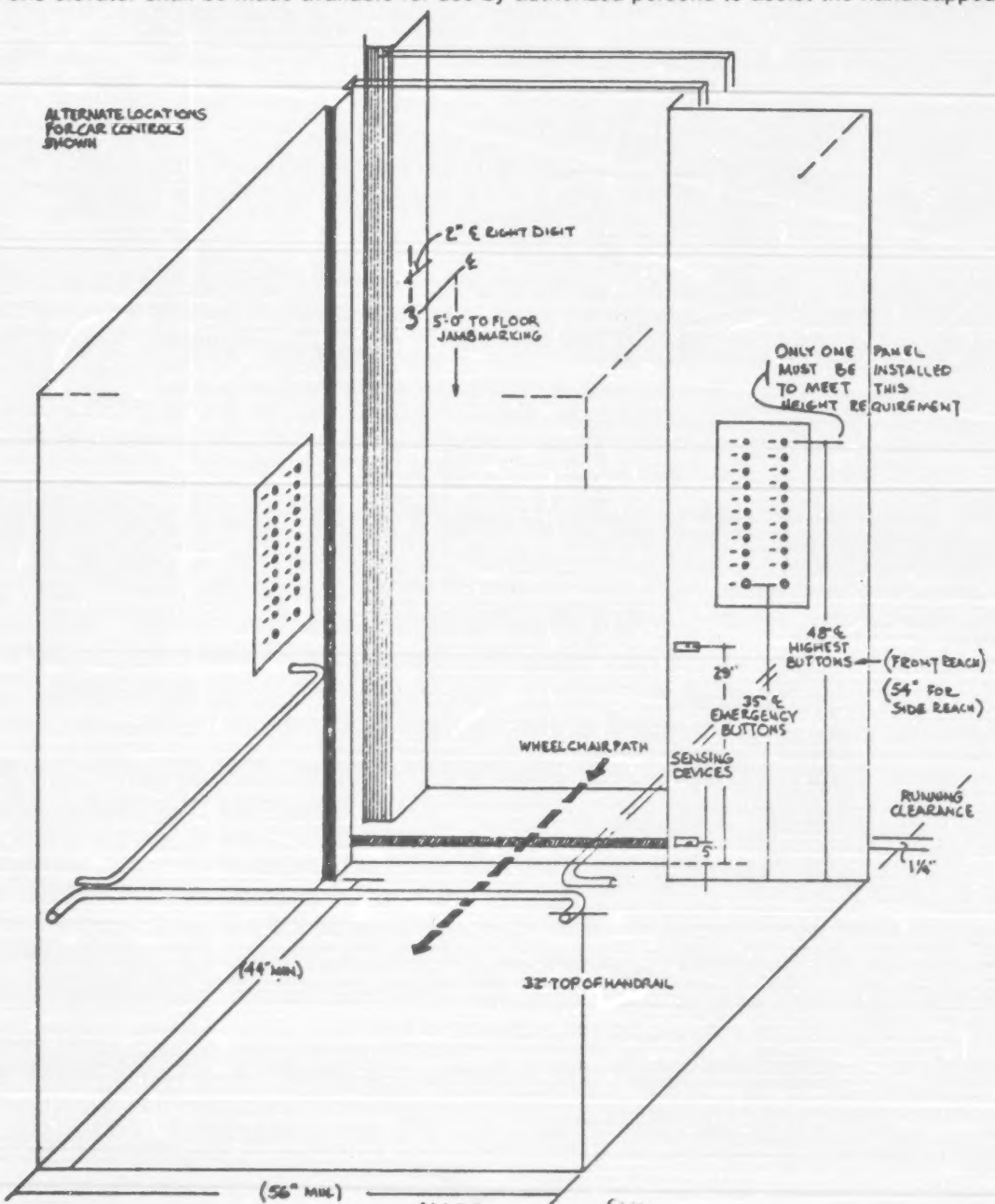
The floor designation shall be provided at each hoistway entrance on both sides of jamb visible from within the car and the elevator lobby at a height of (60) inches above the floor. Designations shall be on a contrasting color background a minimum of (2½) inches high and raised or embossed (.030) inch. Applied plates permanently attached shall be acceptable.

16. EMERGENCY USE

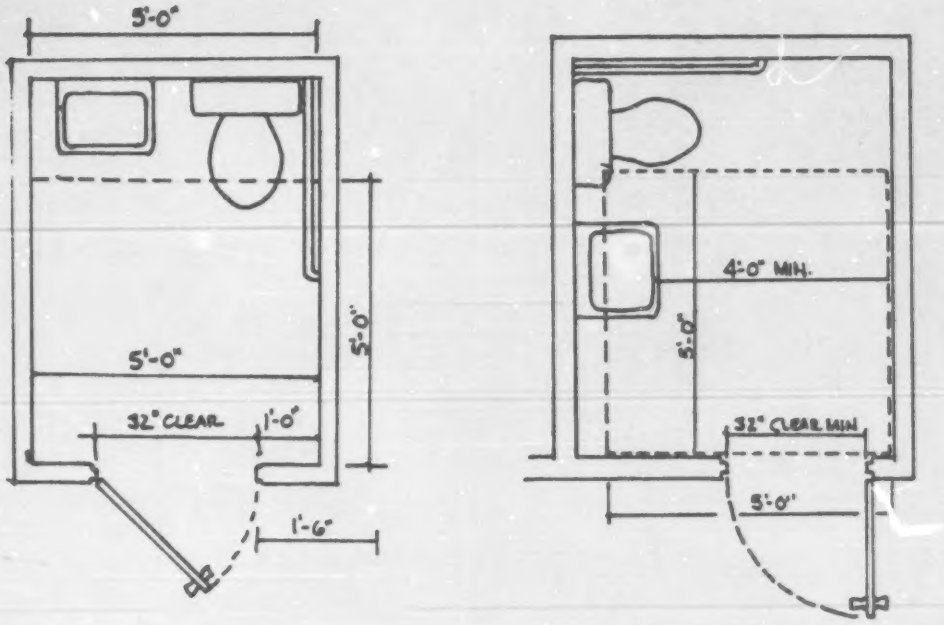
Elevators cannot be considered as exits in an emergency. A definite plan is required to assist the physically handicapped, particularly those in wheelchairs.

Consideration should be given to emergency evacuation.

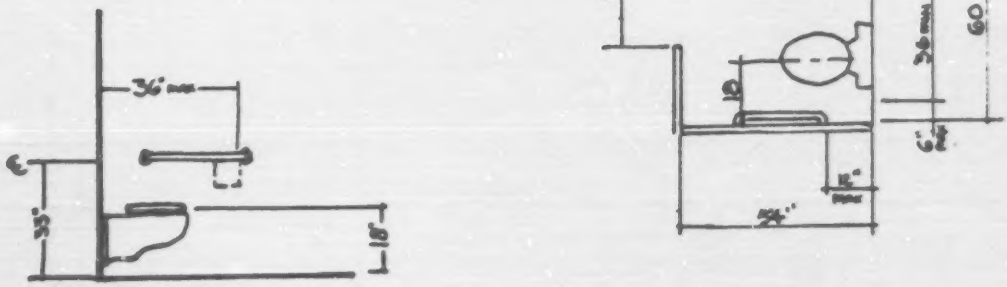
At least one elevator shall be made available for use by authorized persons to assist the handicapped.



MINIMUM REQUIREMENTS FOR SINGLE INDIVIDUAL TOILET ROOMS



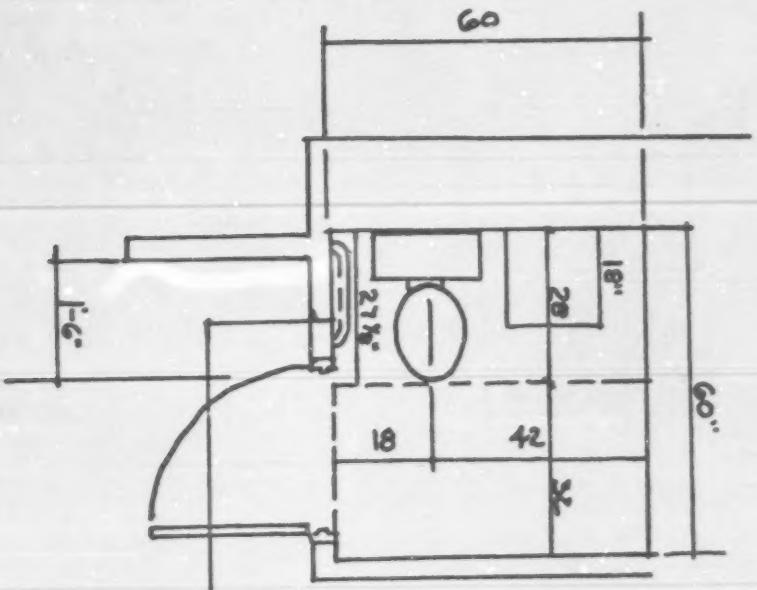
BARRIER-FREE MINIMUM TOILET STALLS



MINIMAL ACCESSIBILITY TOILET FACILITIES

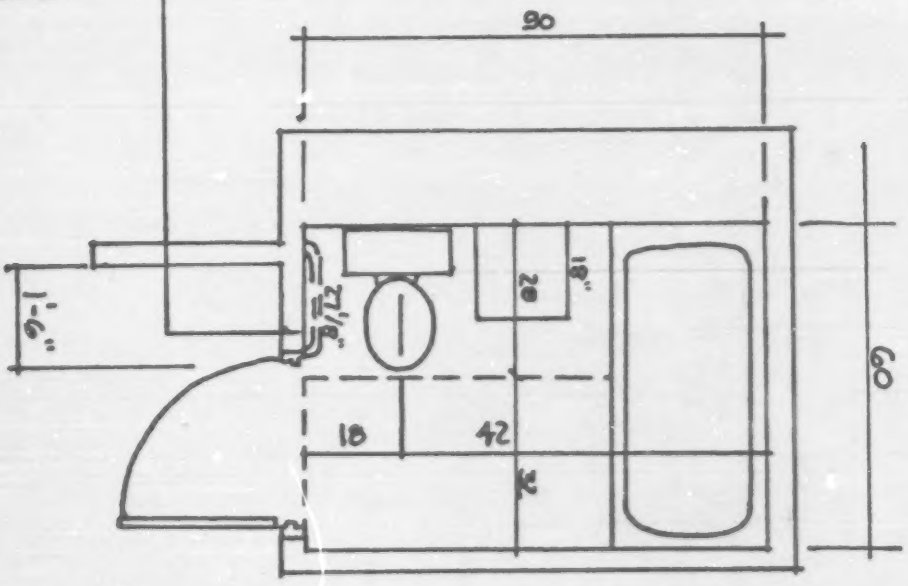
(32" by 60" clear space)

SKETCH "A"



HANDRAILS REQUIRED AT NON-RESIDENTIAL CONSTRUCTION

SKETCH "B"



APPENDIX F

SYMBOL OF ACCESSIBILITY

The International Symbol of Accessibility shall be displayed in the following conditions:

A. At accessible entrances to a building or facility if all entrances are not accessible.

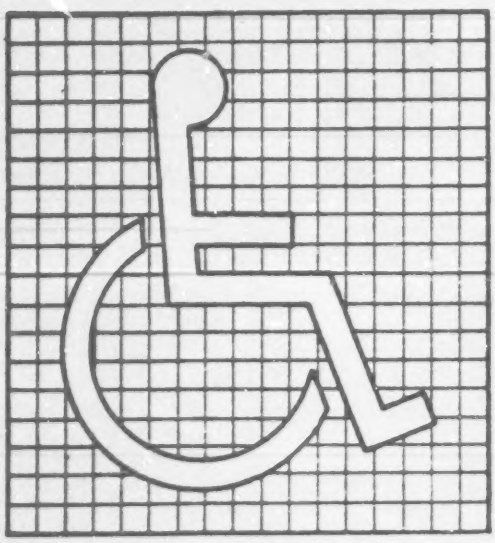
B. At entrances to accessible public toilet rooms if all public toilet rooms in a building are not accessible.

C. At the origins of accessible paths of travel to major publicly-used spaces if all paths of travel from a point to a specific space are not accessible.

D. If provided, on signs and building layout diagrams showing where accessible toilet rooms, means of emergency egress or refuge and entrances are located.

E. If provided, at parking spaces reserved for people who use wheelchairs and walking aids.

The symbol shall be displayed as shown in Figure B.



A. Proportions

B. Display Conditions

1. Normal Color — Azure Blue and White (Federal Standard 595A — Color #15180)
2. Alternate Color — Black and White

C. Standard 12" x 18" rust-proof aluminum signs for exterior use can be obtained from Jersey Cape Diagnostic, Training and Opportunity Center, Inc., Box 31, Ocean View, N.J. 08230, Telephone 609 / 398-1397, a non-profit organization employing the handicapped. Other sources of such signs may be obtained by telephone from Mrs. Evelyn Dolan, 609 / 292-0056.

Public Act No. 75–147

An Act Concerning Rental Units For Physically Disabled Persons in State Funded Housing

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (NEW) Any state assisted housing or housing project constructed or substantially rehabilitated under a building permit issued on or after the effective date of this act and which contains ten or more housing units shall have at least ten percent of such units designed to promote safe and accessible means of entrance and egress and ease of access and use of facilities for the physically disabled, as defined in subsection (b) of section 1–1f of the general statutes. Physically disabled persons and families shall receive priority in placement in no less than ten percent of the housing units constructed or substantially rehabilitated after the effective date of this act.

Section 2. This act shall take effect January 1, 1976.

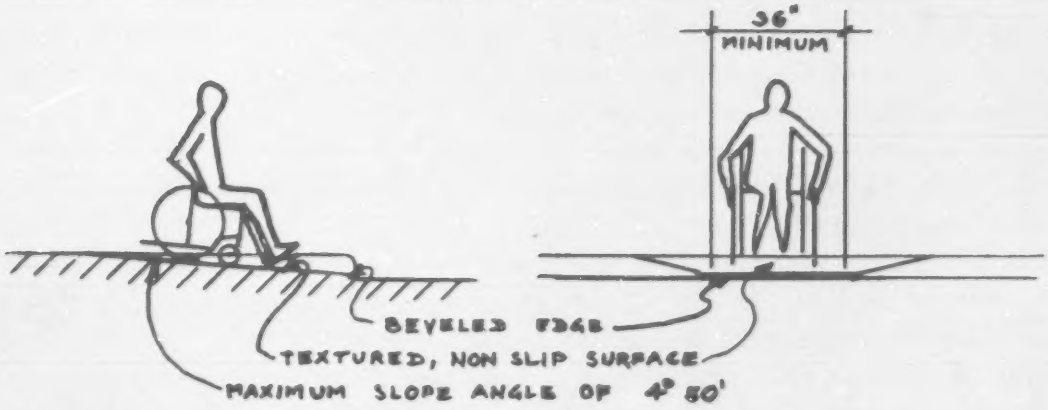
Public Act No. 75–295

An Act Concerning Curbs Designed with Cuts at Pedestrian Crosswalks

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (NEW) All curbs constructed or replaced by the state or any political subdivision thereof, on or after the effective date of this act, shall be designed with cuts at all pedestrian crosswalks to provide adequate and reasonable access for the safe and convenient movement of physically handicapped persons. Such cuts shall meet the following specifications: (1) The cut shall have a surface that is textured and non-slip; (2) the cut shall be at least thirty-six inches wide; and (3) the cut shall have a slope not greater than four degrees fifty minutes and shall be beveled at the bottom.

Section 2. This act shall take effect July 1, 1975.



Public Act No. 75–503

An Act Concerning Construction Standards to Accommodate Handicapped Persons in Buildings Open to the Public

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Section 19-395a of the general statutes is repealed and the following is substituted in lieu thereof:

(a) [The state building inspector shall adopt and amend, either directly or by reference, regulations or codes, including codes established by the American Standards Association, concerning the design and construction of public buildings and such rules, regulations or codes shall prescribe minimum standards concerning safe and accessible means of entrance and egress and ease of access and of use of facilities adequate to meet the needs of people having disabilities rendering them nonambulatory or semi-ambulatory, sight disabilities, hearing disabilities, and disabilities causing lack of coordination and other disabilities or limitations resulting from aging, illness or injury. The regulations, codes and standards established by authority of this section shall be consistent with generally accepted architectural and engineering standards and practices and shall reasonably and fairly recognize the need for full utilization of space function and facility by the general public] THE STATE BUILDING INSPECTOR AND THE STATE BUILDING CODE STANDARDS COMMITTEE SHALL REVISE ARTICLE 21 OF THE STATE BUILDING CODE TO INCORPORATE, AS MINIMUM REQUIREMENTS, THE PROVISIONS OF THE "AMERICAN NATIONAL STANDARD SPECIFICATIONS FOR MAKING BUILDINGS AND FACILITIES ACCESSIBLE TO, AND USABLE BY, THE PHYSICALLY HANDICAPPED" OF AMERICAN NATIONAL STANDARDS INSTITUTE, INC. (ANSI A117.1-1961, AS REVISED). THE PROVISIONS OF THIS SUBSECTION AND THE STATE BUILDING CODE AS REVISED PURSUANT TO THIS ACT SHALL CONTROL THE DESIGN, CONSTRUCTION AND ARRANGEMENT OF ALL BUILDINGS AND BUILDING ELEMENTS, CONSTRUCTED UNDER PERMITS ISSUED ON OR AFTER OCTOBER 1, 1975, TO ENSURE ACCESSIBILITY THERETO AND USE BY THE PHYSICALLY HANDICAPPED.

(b) Regulations or codes made or amended by authority of [sections 19-395a to 19-395c, inclusive,] SECTION 1 OF THIS ACT shall, after a public hearing called for that purpose by the state building inspector not less than thirty days before the date of such hearing, be filed by the state building inspector with the secretary of the state in accordance with the provisions of [sections 4-44 and 4-46] CHAPTER 54 and he shall thereafter make copies available to persons having an interest therein.

(c) If any regulation is set aside by a court of competent jurisdiction, such ruling shall affect only the regulation, standard or specification included in the ruling and all other regulations, standards or specifications shall remain in effect.

Section 2. (NEW) (a) The provisions of this act shall not apply to the following use groups in the state building code: (1) Use Group A "High Hazard"; (2) use group B-1 "Storage, Moderate"; (3) use group B-2 "Storage, Low"; and (4) group L-3 "Residential, one and two family".

(b) The provisions of this act shall not apply to the renovations, additions or alterations to existing buildings above the street floor being converted to use group E, Business Buildings, as defined in the state building code, provided: (1) Each story above the street floor contains less than two thousand five hundred square feet of usable area per floor; and (2) the street floor is renovated or altered to comply with the provisions of this act.

(c) The provisions of this act shall not apply to use group L-1, Residential-Hotels, as defined in the state building code, having fewer than twenty-five units provided structures having twenty-five or more units shall have at least one bedroom unit for every twenty-five bedroom units or fraction thereof made accessible to the physically handicapped.

(d) The provisions of this act shall not apply to use group L-2, Residential-Multi-Family, as defined in the state building code, having fewer than twenty-five units provided structures having twenty-five or more units shall have at least one dwelling unit for every twenty-five dwelling units or fraction thereof made accessible to the physically handicapped.

Section 3. (NEW) Building permits validly issued before October 1, 1975, and buildings or structures being erected or altered pursuant thereto shall be valid thereafter and such erection or alteration may be completed pursuant to such building permit.

Section 4. (NEW) Article 21 of the state building code in effect prior to October 1, 1975, shall remain in effect until such time as the revised Article 21 of said code is adopted or October 1, 1975, whichever is later.

Section 5. Sections 19-395b, 19-395c and 19-395k of the general statutes are repealed.

Section 6. This act shall take effect July 1, 1975.

Explanation: At the time of this writing, (May 1977) a revised Article 21 had been proposed, hearings held on its provisions, but it was rejected in part by a Legislative Review Committee; thus, as of May 1977, the old Article 21 is in force. At a time when a revised Article 21 is accepted by both the State Building Inspector and the Legislative Review Committee, it will be printed with its effective date, and added to the pages of this volume by Eastern Paralyzed Veterans Association.

STATE OF CONNECTICUT

STATE BUILDING CODE

The State Building Inspector and the State Building Code Standards Committee in accordance with the provisions of Section 19-395 et. seq., Conn. Gen. Stats. effective October 1, 1970 (1969 P.A. 443) and with the approval of the Public Works Commissioner have adopted this State Building Code for the State of Connecticut, effective September 1, 1971.

The Connecticut State Building Code incorporates portions of "The BOCA Basic Building Code/1970" published by the Building Officials and Code Administrators International, 1313 East 60th Street, Chicago, Illinois, 60637. Specifically, the Connecticut Code incorporates verbatim the provisions of the BOCA Code except for the amendments and deletions itemized on the following pages. All such changes are identified by an asterisk (*) preceding the section number.

Under the official codification of Connecticut State Regulations, each section number of the Connecticut State Building Code will begin with the designation "19-395-" which will be succeeded by the section numbers referred to herein.

Explanation: Article 21, which contains the nature and type of facilities needed to make a building accessible to, and usable by, the physically handicapped, is an amendment to the BOCA Basic Building Code as adopted by the State of Connecticut. Users of the BOCA Basic Building Code should be aware that its provisions for facilities for the physically handicapped do not apply in Connecticut.

ARTICLE 1 Administration and Enforcement

Section 106.0 Existing Buildings

Except as provided in this section, existing buildings when altered or repaired as herein specified shall be made to conform to the full requirements of the Basic Code for new buildings.

106.1 Alterations Exceeding Fifty Percent: If alterations or repairs are made within any period of twelve (12) months, costing in excess of fifty (50) percent of the physical value of the building; or

106.2 Damages Exceeding Fifty Percent: If the building is damaged by fire or any other cause to an extent in excess of fifty (50) percent of the physical value of the building before the damage was incurred.

106.3 Alterations Under Fifty Percent: If the cost of alterations or repairs described herein is between twenty-five (25) and fifty (50) percent of the physical value of the building, the building official shall determine to what degree the portions so altered or repaired shall be made to conform to the requirements for new buildings:

106.4 Alterations Under Twenty-five Percent: If the cost of alterations or repairs described herein is twenty-five (25) percent or less of the physical value of the building, the building official shall permit the restoration of the building to its condition previous to damage or deterioration with the same kind of materials as those of which the building was constructed; provided that such construction does not endanger the general safety and public welfare and complies with the provisions of section 928.1 in respect to existing roofs.

106.5 Increase in Size: If the building is increased in floor area or number of stories, the entire building shall be made to conform with the requirements of the Basic Code in respect to means of egress, fire safety, light and ventilation.

106.6 Part Change in Use: If a portion of the building is changed in occupancy or to a new use group and that portion is separated from the remainder of the building with the required vertical and horizontal fire divisions complying with the fire grading in table 16, then the construction involved in the change shall be made to conform to the requirements for the new use and occupancy and the existing portion shall be made to comply with the exitway requirements of the Basic Code.

106.7 Physical Value: In applying the provisions of this section, the physical value of the building shall be determined by the building official and be based on current replacement costs.

Explanation: In situations where alterations or repairs are either under 25% or between 25% and 50% of building replacement cost, facilities for the physically handicapped are not mandatory. Nor is this the case when buildings increase in floor area or number of stories. However, when such alterations and repairs are being carried out, it is an ideal time to provide inexpensively for access and use of buildings for the disabled. Barrier-free designed facilities are easier to use for all persons, not just the physically handicapped. Thus, in certain building uses, when alterations exceed 50% of replacement cost, provisions under Article 21 are required; when alterations fall below 50% of replacement cost, we urge building inspectors to recommend to building owners that the Article 21 provisions be followed. Building owners are urged also to contact the Internal Revenue Service for information concerning a tax incentive for the removal of barriers to the handicapped.

Section 110.0 Modifications

***110.1 Variations:** When there are practical difficulties involved in carrying out structural or mechanical provisions of the Basic Code or of an approved rule, the State Building Inspector and the State Building Code Standards Committee may vary or modify such provision upon application of any town, city or borough or any interested party, provided that the spirit and intent of the law shall be observed and public welfare and safety be assured. Where the practical difficulties promise to arise frequently, the parties involved should follow the amendment procedure of §19-395 Conn. Gen. Stats. (1969 P.A. 443 §4).

Explanation: It is hoped that such a variance from requirements for facilities for the physically handicapped would be granted as infrequently as possible. Proper site development can solve many of the difficulties attached to building access for the handicapped, and proper interior space allotment in the schematic design stage eliminates difficulties attached to building use requirements for the disabled.

Section 111.0 Inspection

***111.1 Preliminary Inspection:** Before issuing a permit, the building official shall examine or cause to be examined all buildings, structures and sites for which an application has been filed for a permit to construct, enlarge, alter, repair, remove, demolish or change the use thereof; and he shall maintain a record of all such examinations and inspections and of all violations of the Basic Code.

***111.11 Construction Inspection:** The building official shall inspect all work performed under the provisions of the Basic Code and make continuous special inspections when so required by the Code. The permit holder or his agent shall notify the building official when the work is ready for inspection, giving not less than twenty-four hour notice.

***111.5 Final Inspections:** Upon completion of the building or structure, and before issuance of the certificate of use and occupancy required in Section 121, a final inspection shall be made and all violations of the approved plans and permit shall be noted and the holder of the permit shall be notified of the discrepancies. The certificate of use and occupancy required in Section 121 will not be issued until the discrepancies have been corrected.

Section 122.0 Violations

122.1 Notice of Violation: The building official shall serve a notice of violation or order on the person responsible for the erection, construction, alteration, extension, repair, use or occupancy of a building or structure in violation of the provisions of the Basic Code, or in violation of a detail statement or a plan approved thereunder, or in violation of a permit or certificate issued under the provisions of the Basic Code; and such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

122.2 Prosecution and Violation: If the notice of violation is not complied with promptly, the building official shall request the legal council of the municipality to institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation or to require the removal or termination of the unlawful use of the building or structure in violation of the provisions of the Basic Code or of the order or direction made pursuant thereto.

122.3 Violation Penalties: Any person who shall violate a provision of the Basic Code or shall fail to comply with any of the requirements thereof or shall erect, construct, alter or repair a building or structure in violation of any approved plan or directive of the building official, or of a permit or certificate issued under the provisions of the Basic Code shall be punishable by a fine of not more than $500. Each day that a violation continues shall be deemed a separate offense.

122.4 Abatement of Violation: The imposition of the penalties herein prescribed shall not preclude the legal officer of the municipality from instituting appropriate action to prevent unlawful construction or to restrain, correct or abate a violation, or to prevent illegal occupancy of a building, structure or premises or to stop an illegal act, conduct, business or use of a building or structure in or about any premises.

Section 123.0 Stop-Work Order

123.1 Notice to Owner: Upon notice from the building official that work on any building or structure is being prosecuted contrary to the provisions of the Basic Code or in an unsafe and dangerous manner, such work shall be immediately stopped. The stop-work order shall be in writing and shall be given to the owner of the property involved, or to the owner's agent, or to the person doing the work; and shall state the conditions under which work may be resumed.

123.2 Unlawful Continuance: Any person who shall continue any work in or about a building after having been served with a stop order, except such work as he is directed to perform to remove a violation or unsafe conditions, shall be liable to a fine of not less than $25 or more than $500. Each day that a violation continues shall be deemed a separate offense.

Explanation: All of the above provisions act as deterrents to non-compliance with this Code. Inspections, stop-work orders, etc., are primarily utilized for fire safety violations and inadequate construction; nevertheless, building inspectors are responsible for compliance with the entire Code and this includes Article 21 provisions for the handicapped.

ARTICLE 2 Definitions and Classifications

Section 202.0 Use Group Classification

All buildings and structures shall be classified with respect to use in one of the following use groups: group A, high hazard; group B, storage; group C, mercantile; group D, industrial; group E, business; group F, assembly; group H, institutional; group L, residential; and group M, miscellaneous buildings.

202.1 Fire Grading of Buildings: All buildings and structures shall be graded in accordance with the degree of fire hazard of their use in terms of hours and fractions of an hour and as regulated by table 16, section 902.

202.2 New Uses: The building official shall establish by approved rules the degree of hazard involved and the fire grading of any use not specifically provided for in the Basic Code.

Explanation: Public Act 75-503, effective July 1, 1975 exempts the following classes of buildings only from Article 21 provisions for the disabled: group A "High Hazard"; group B-1 "Storage, Moderate"; group B-2 "Storage, Low"; and group L-3 "Residential, one and two family." Although the number and type of facilities vary, all other use group classifications are required to include certain facilities for access and use by the physically handicapped.

Section 205.0 Use Group C, Mercantile Buildings

All buildings and structures or parts thereof shall be classified in the mercantile use group which are used for display and sales purposes involving stocks of goods, wares or merchandise incidental to such purposes and accessible to the public; including among others retail stores, shops and salesrooms and markets. Highly combustible goods, such as merchandise made of pyroxylin products, shall be limited to small quantities that do not constitute a high hazard; and if not so limited, the construction shall comply with the requirements of the high hazard use group as required by the provisions of article 4 and tables 5 and 6.

Explanation: Required to provide access and and use of facilities by the physically handicapped in all cases, according to the specific provisions of Article 21.

Section 206.0 Use Group D, Industrial Buildings

All buildings and structures or parts thereof in which occupants are engaged in performing work or labor in fabricating, assembling or processing of products or materials shall be classified in the industrial use group; including among other factories, assembling plants, industrial laboratories and all other industrial and manufacturing uses, except those involving highly combustible, flammable or explosive products and materials of the high hazard use group (use group A).

206.1 List of Industrial Uses: The processes and manufacturers listed in table 4 shall be indicative of and include the uses permitted in use group D buildings.

Table 4—Use Group D, Industrial Uses

*Agricultural Processing Buildings
Bakeries
Boiler works
Breweries
Canneries, including food products
Condensed and powdered milk manufacture
Dry cleaning using other than volatile flammable liquids in cleaning or dying operations or other than classifed in table 1
Electric light plants and power houses
Electrolytic reducing works
Glass plants
Ice plants
Leather and tanneries, excluding enameling or japanning
Millwork and woodworking
Sugar refineries
Tenant factories, excluding ladies' dresses and other high hazard uses
Textile mills, including canvas, cotton cloth, bagging, burlap, carpets and rags
Upholstery and manufacturing shops
Water-pumping plants

Explanation: Provisions for the physically handicapped according to Article 21 are required in all cases of group D Industrial Building construction.

Section 207.0 Use Group E, Business Buildings

All buildings and structures or parts thereof shall be classified in the business use group which are used for the transaction of business, for the rendering of professional services or for other services that involve stocks of goods, wages, or merchandise in limited quantities for use incidental to office uses or sample purposes; including among others offices, banks, civic administration activities, professional services, testing and research laboratories, radio stations, telephone exchanges, motor fuel service stations and similar establishments.

Explanation: According to Public Act 75-503, when renovations, additions, or alterations above the street floor to existing buildings being converted to a group E Business use are done, such renovations need not include facilities for the physically handicapped if each story above the street floor contains less than 2,500 square feet of usable area per floor, and the street floor is renovated or altered to comply with Article 21 provisions. If each story above the street floor contains more than 2,500 square feet, then facilities for the handicapped would be required in above street floor stories. It should be noted that all renovations or alterations to Group E existing buildings must also conform to Article 1, Section 106.0 "Existing Buildings." Also, new construction of Group E Business uses must comply with Article 21.

Section 208.0 Use Group F, Assembly Buildings

All buildings and structures or parts thereof shall be classified in the assembly use group which are used or designed for places of assembly as defined in the Basic Code.

208.1 Use Group F-1—Theaters

208.11 Use Group F-I-A Structures shall include all theaters and other buildings used primarily for theatrical or operatic performances and exhibitions, arranged with a raised stage, proscenium curtain, fixed or portable scenery or scenery loft, lights, motion picture booth, mechanical appliances or other theatrical accessories and equipment and provided with fixed seats.

208.12 Use Group F-1-B Structures shall include all theaters without a stage and equipped with fixed seats used for motion picture performances.

208.2 Use Group F-2 Structures shall include all buildings and places of public assembly, without theatrical stage accessories, designed for use as dance halls, night clubs and for similar purposes including all rooms, lobbies and other spaces connected thereto with a common means of egress and entrance.

208.3 Use Group F-3 Structures shall include all buildings with or without an auditorium in which persons assemble for amusement, entertainment or recreation, and incidental motion picture, dramatic, theatrical or educational presentations, lectures, or other similar purposes, without theatrical seating facilities, including art galleries, exhibition halls, lecture halls, museums, restaurants other than night clubs and recreation centers; and buildings designed for other similar assembly purposes including passenger terminals.

208.4 Use Group F-4 Structures shall include all buildings used as churches, day nurseries, libraries, schools, colleges and for similar educational and religious purposes.

208.5 Use Group F-5 Structures shall include grandstands, bleachers, coliseums, stadiums, drive-in theaters, tents and similar structures for outdoor assembly use and shall comply with the provisions of the Basic Code for special uses and occupancies. (see article 4.)

Explanation: Required to provide facilities for the physically handicapped in all cases.

Section 209.0 Use Group H, Institutional Buildings

All buildings and structures or parts thereof shall be classified in the institutional use group in which people suffering from physical limitations because of health or age are harbored for medical or other care or treatment, or in which people are detained for penal or correctional purposes, or in which the liberty of the inmates is restricted.

209.1 Use Group H-1 shall include all buildings designed for the detention of people under restraint, including among others jails, prisons, reformatories, insane asylums and similar uses.

***209.2 Use Group H-2** shall incude all buildings used for housing people suffering from physical limitations because of health or age, including among others, hospitals, sanitariums, clinics, infirmaries, orphanages, homes for aged and infirm; and buildings designed for prosecuting public or civic services and activities of emergency character, including among others fire houses, police stations and similar uses.

Explanation: New construction of Group H "Institutional Buildings" and substantial alteration as specified in Article 1, Section 106.0 "Existing Buildings" shall be provided with facilities for the physically handicapped as provided in Article 21.

Section 210.0 Use Group L, Residential Buildings

All buildings and structures or parts thereof shall be classified in the residential use group, in which families or households live or in which sleeping accommodations are provided for individuals with or without dining facilities, excluding those that are classified as institutional buildings.

***210.1 Use Group L-1 Structures** shall include all buildings arranged for the shelter and sleeping accommodations of more than twenty-four individuals or having more than 12 rooms, including hotels, lodging houses, rooming houses and dormitories.

***210.2 Use Group L-2 Structures** shall include

(a) all multiple-family dwellings having more than two dewelling units; and also

(b) all dormitories, boarding and lodging houses arranged for shelter and sleeping accommodation of twenty-four (24) individuals or less.

Explanation: Use group L-3 "Residential, one and two family" buildings are not required to provide access and use for the physically handicapped; nonetheless, private home builders and developers are encouraged to construct a portion of such structures accessible, or easily adaptable for accessibility. This will enable physically handicapped homeowners to avoid costly renovations. Also, Public Act 75-503 states that both Groups L-1 and L-2 structures having fewer than 25 units are not required to contain facilities for the handicapped; however, the law provides further that L-1 and L-2 structures having 25 or more units shall have at least one bedroom or dwelling unit for every 25 units (4%) accessible to the disabled.

***Section 211.0 Use Group M, Miscellaneous Uses**

Structures and buildings of a temporary character and miscellaneous structures not classified in any specific use group shall be constructed, equipped and maintained to meet the requirements of the Basic Code commensurate with the fire and life hazard incidental to their use. Miscellaneous uses shall include all agricultural buildings, structures and all accessory structures used as private garages, sheds, fences and similar purposes.

Section 213.0 Mixed Use and Occupancy

213.1 Two or More Uses: In case a building is occupied for two (2) or more uses not included in the same use group, the provisions of the Basic Code applying to each use shall apply to such parts of the building as come within that group; and if there are conflicting provisions, the requirements securing the greater public safety shall apply.

Explanation: Facilities for the physically handicapped may be required in one or more of the uses within a mixed occupancy building.

ARTICLE 6 Means of Egress

Section 617.0 Exitway Ramps

Ramps with a gradient of not more than one (1) in ten (10) may be used as an exitway component and shall comply with all the applicable requirements of required interior stairways as to enclosure, capacity, and limiting dimensions; except in existing buildings and where specified in article 4 for special uses and occupancies, larger gradients may be permitted but in no case greater than one and one-half (1-1/2) in ten (10). For all slopes exceeding one (1) in ten (10) and wherever the use is such as to involve danger of slipping, the ramp shall be surfaced with approved non-slip materials.

Explanation: It is always desirable to have more than one entrance accessible to handicapped persons. But, a ramp which is steeper than one (1) in twelve (12) is a hazard to all persons, not just the physically handicapped. Also, for most persons, ramps are easier to use than steps at all times.

Article 21 MAKING BUILDINGS ACCESSIBLE TO AND USABLE BY THE PHYSICALLY HANDICAPPED

EDITOR'S NOTE: At press time, the revised Article 21 was still being considered by a Legislative Review Committee. When it becomes available, Eastern Paralyzed Veterans Association will automatically forward to you an illustrated version of these revised provisions.

IMPORTANT NOTICE

The Eastern Paralyzed Veterans Association is pleased to present the revised Article 21, as mandated by Public Act 75-503. The effective date of the following regulations is October 15, 1977.

ARTICLE 21 Making Buildings Accessible To And Usable By The Physically Handicapped
Provisions For The Physically Handicapped

Section 2100.0 Scope and Purpose

2100.1 Scope: The provisions of this article shall control the design, construction and arrangement of all new buildings and building elements, constructed under permits issued on or after the effective date of these regulations, to ensure accessibility thereto and use by the physically handicapped, except for those use groups specifically exempt under the provisions of Section 2103.0. The provisions of this article as applied to all existing buildings and uses shall be controlled by the provisions of Section 106.0.

Explanation: The provisions of Section 106.0 concerning existing buildings are reproduced on pages CT-4 — CT-5.

2100.2 Purpose: With the application for each building permit, in addition to the information required under Section 113.52, the plans shall show all details of the required facilities that are to make buildings accessible to and usable by the physically handicapped, and the methods of complying with the requirements of this article.

All floors shall be made accessible to and usable by the physically handicapped except those specifically exempted as noted in these regulations.

Explanation: Including design details of required facilities for the handicapped in the earliest planning stages makes good sense, and is cost-effective. Generally, if facilities for the handicapped are included in original plans, the additional cost is minimal; however, cost factors rise if facilities for the handicapped must be designed in after the start of construction.

2100.3 Definitions: This article is concerned with non-ambulatory disabilities, semi-ambulatory disabilities, sight disabilities, hearing disabilities, disabilities of incoordination, and aging.

Non-Ambulatory Disabilities: Impairments that, regardless of cause or manifestation, for all practical purposes, confine individuals to wheelchairs.

Semi-Ambulatory Disabilities: Impairments that cause individuals to walk with difficulty or insecurity. Individuals using braces or crutches, amputees, arthritic, spastics, and those with pulmonary and cardiac ills are considered to be semi-ambulatory.

Sight Disabilities: Total blindness or impairments affecting sight to the extent that the individual functioning in public areas is insecure or exposed to danger.

Hearing Disabilities: Deafness or hearing handicaps that might make an individual insecure in public areas because he is unable to communicate or hear warning signals.

Disabilities of Incoordination: Faulty coordination or palsy from brain, spinal or peripheral nerve injury.

Aging: Those manifestations of the aging processes that significantly reduce mobility, flexibility, coordination, and perceptiveness but are not accounted for in aforementioned categories.

Standard: When this term appears in small letters and is not preceeded by the word "American," it is descriptive and does not refer to an American Standard approved by ANSI; for example, a "standard" wheelchair is one characterized as standard by the manufacturers.

Fixed Turning Radius, Wheel to Wheel: The tracking of the caster wheels and large wheels of a wheelchair when pivoting on a spot. The standard is eighteen (18) inches.

Fixed Turning Radius, Front Structure to Rear Structure: The turning radius of a wheelchair, left front-foot platform to right rear wheel, or right front-foot platform to left rear wheel, when pivoting on a spot. Front structure to rear structure. The standard is thirty one point five (31.5) inches.

Involved (Involvement): A portion or portions of the human anatomy or physiology, or both, that have a loss or impairment of normal function as a result of genesis, trauma, disease, inflammation, or degeneration.

Ramps, Ramps with Gradients: Because the term "ramp" has a multitude of meanings and uses, its use in this article is clearly defined as ramps with gradients (or ramps with slopes) that deviate from what would otherwise be considered the normal level. An exterior ramp, as distinguished from a "walk," is an appendage to a building leading to a level above or below existing ground level.

Street Floor: The lower most story entirely above the grade plane.

Walk, Walks: Because the terms "walk" or "walks" have a multitude of meanings and uses, their use in this article is clearly defined as a pre-determined, prepared-surface, exterior pathway leading to or from a building or facility or from one exterior area to another, placed on the existing ground level and not deviating from the level of the existing ground immediately adjacent.

Section 2101.0 Performance Standards

All provisions for access to and use by the physically handicapped of buildings regulated by this article are deemed to conform to or be better than the requirements of ANSI Standard A117.1-1961 (R 1971), "Specifications for Making Buildings and Facilities Accessible to, and Usable by, the Physically Handicapped," unless otherwise excepted herein.

Section 2102.0 Alterations

It shall be unlawful to alter any building in any manner which will reduce or limit the facilities required for the physically handicapped, where such provisions are required. Safe and adequate exitways must be maintained during any repair or maintenance operations in such buildings.

Section 2103.0 Exceptions

The requirements of this article shall not apply to buildings classified in the following use groups:

1) Use Group A, high hazard buildings.
2) Use Group B-1, "Storage, Moderate."
3) Use Group B-2, "Storage, Low."
4) Use Group L-1, Residential-Hotels, having fewer than twenty-five units.
5) Use Group L-2, Residential Multi-Family, having fewer than twenty-five units.
6) Use Group L-3, "Residential, one and two family."

Section 2104.0 Identification

All buildings and all facilities within buildings shall be clearly identified with the international symbol of accessibility for the handicapped as defined in 2100.3. All floor levels shall be clearly identified as such.

Section 2105.0 Use Group Modifications

2105.1 Use Group L-1: At least one (1) bedroom unit for every twenty-five (25) bedroom units or fraction thereof in use group L-1 buildings shall be made accessible to and usable by physically handicapped persons. The total building must comply with all requirements of this article, and all floors must be accessible and usable by the physically handicapped.

2105.2 Use Group L-2: At least one (1) dwelling unit for every twenty-five (25) dwelling units or fraction thereof in use group L-2 buildings shall be made accessible to and usable by physically handicapped persons. The total buildings must comply with all requirements of this article, and all floors must be accessible and usable by the physically handicapped.

2105.3 Use Group E: The provisions of this act shall not apply to the renovations, additions or alterations to existing buildings above the street floor being converted to use Group E, Business Buildings, provided: (1) each story above the street floor contains less than two thousand five hundred square feet of usable area per floor, and (2) the street floor is renovated or altered to comply with the provisions of this article.

Explanation: These Use Group Modification provisions are contained in the ennabling legislation, Public Act 75-503 (pp. CT-2 – CT-3). While 4% of Groups L-1 and L-2 units must be accessible, other building areas such as public spaces must also be accessible. Article 2 – Use Group Classifications – is reproduced on pages CT-7 – CT-11.

Section 2106.0 Building Accessibility

2106.1 Building Entrance: At least one primary entrance to each building shall be usable by individuals in wheelchairs.

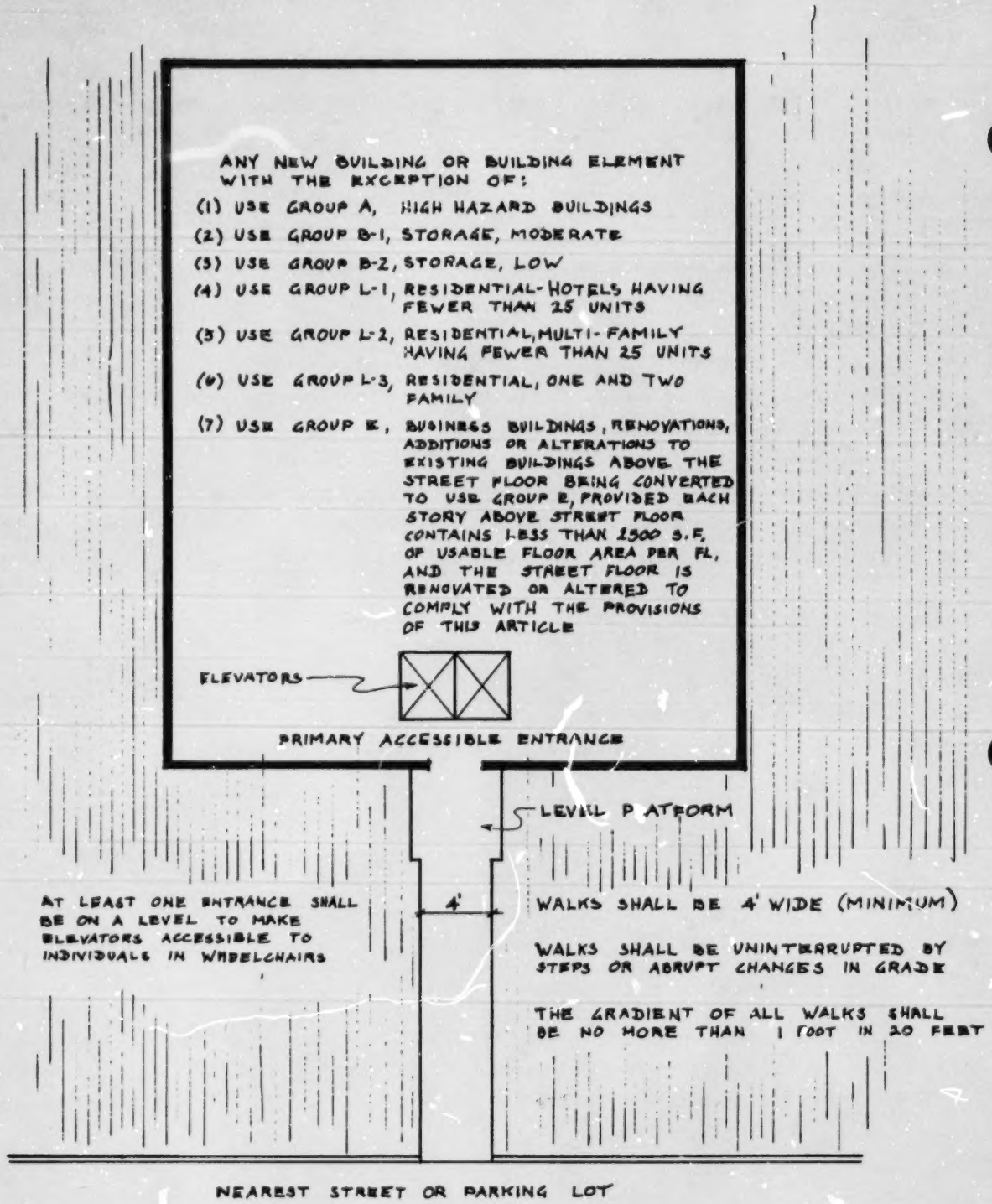

ANY NEW BUILDING OR BUILDING ELEMENT WITH THE EXCEPTION OF:
(1) USE GROUP A, HIGH HAZARD BUILDINGS
(2) USE GROUP B-1, STORAGE, MODERATE
(3) USE GROUP B-2, STORAGE, LOW
(4) USE GROUP L-1, RESIDENTIAL-HOTELS HAVING FEWER THAN 25 UNITS
(5) USE GROUP L-2, RESIDENTIAL, MULTI-FAMILY HAVING FEWER THAN 25 UNITS
(6) USE GROUP L-3, RESIDENTIAL, ONE AND TWO FAMILY
(7) USE GROUP E, BUSINESS BUILDINGS, RENOVATIONS, ADDITIONS OR ALTERATIONS TO EXISTING BUILDINGS ABOVE THE STREET FLOOR BEING CONVERTED TO USE GROUP E, PROVIDED EACH STORY ABOVE STREET FLOOR CONTAINS LESS THAN 2500 S.F. OF USABLE FLOOR AREA PER FL, AND THE STREET FLOOR IS RENOVATED OR ALTERED TO COMPLY WITH THE PROVISIONS OF THIS ARTICLE
ELEVATORS
PRIMARY ACCESSIBLE ENTRANCE
LEVEL PLATFORM
AT LEAST ONE ENTRANCE SHALL BE ON A LEVEL TO MAKE ELEVATORS ACCESSIBLE TO INDIVIDUALS IN WHEELCHAIRS
4'
WALKS SHALL BE 4' WIDE (MINIMUM)
WALKS SHALL BE UNINTERRUPTED BY STEPS OR ABRUPT CHANGES IN GRADE
THE GRADIENT OF ALL WALKS SHALL BE NO MORE THAN 1 FOOT IN 20 FEET
NEAREST STREET OR PARKING LOT

Figure 1. Building Accessibility and Walk Requirements

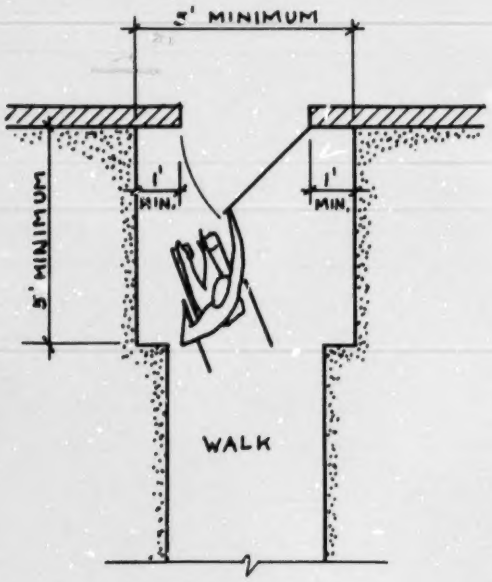
At least one primary entrance to each new building or structure shall be accessible from the parking lot or the nearest street by means of a walk uninterrupted by steps or abrupt changes in grade and shall have a width of not less than four (4) feet and a gradient of not more than one (1) foot in twenty (20) feet.

2106.11 Walks: A walk shall have a level platform at the top which is at least five (5) feet by five (5) feet, if a door swings out onto the platform or toward the walk. This platform shall extend at least one (1) foot beyond each side of the doorway.

A walk shall have a level platform at least three (3) feet deep and five (5) feet wide, if the door does not swing onto the platform or toward the walk. This platform shall extend at least one (1) foot beyond each side of the doorway.

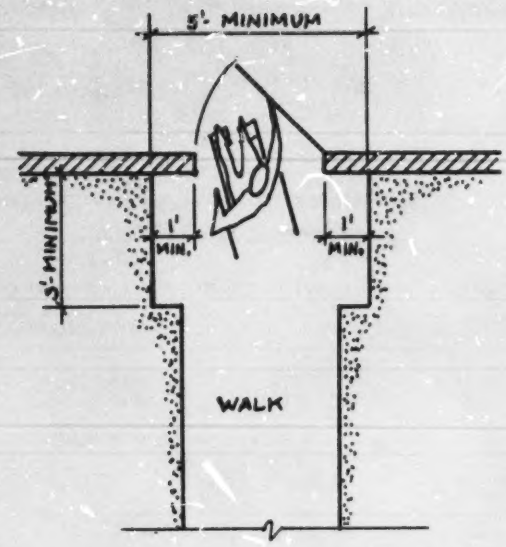
2106.2 Location: At least one primary entrance in all buildings shall be made accessible to and usable by the physically handicapped. At least one entrance shall be on a level to make elevators accessible to individuals in wheelchairs. (Figures 1, 2, 3)

Explanation: If the primary entrance for the handicapped is located at the side, rear or underneath a facility adjacent to a parking area or roadway, there must be proper identification and directional signs at the front building entrance so that the physically handicapped may learn where building access may be achieved.



A WALK SHALL HAVE A LEVEL PLATFORM AT THE TOP WHICH IS AT LEAST 5' BY 5', IF A DOOR SWINGS OUT ONTO THE PLATFORM OR TOWARD THE WALK, THIS PLATFORM SHALL EXTEND AT LEAST 1' BEYOND EACH SIDE OF THE DOORWAY.

Figure 2. Walk Platform If Door Swings Out



A WALK SHALL HAVE A LEVEL PLATFORM AT THE TOP WHICH IS AT LEAST 3' DEEP AND 5' WIDE, IF THE DOOR DOES NOT SWING TOWARD THE PLATFORM OR THE WALK. THIS PLATFORM SHALL EXTEND AT LEAST 1' BEYOND EACH SIDE OF THE DOORWAY.

Figure 3. Walk Platform If Door Swings In

2106.21 Ramps

Ramps with Gradients: Where ramps with gradients are necessary they shall conform to the following specifications:

A ramp shall not have a slope greater than one (1) foot rise in twelve (12) feet, or 8.33 percent, or 4 degrees 50 minutes.

A ramp shall have handrails on at least one side, and preferably two sides, that are thirty-two (32) inches in height, measured from the surface of the ramp, that are smooth, that extend one (1) foot beyond the top and bottom of the ramp, and that otherwise conform with American Standard Safety Code for Floor and Wall Openings, Railings, and Toe Boards, A12.1-1967.

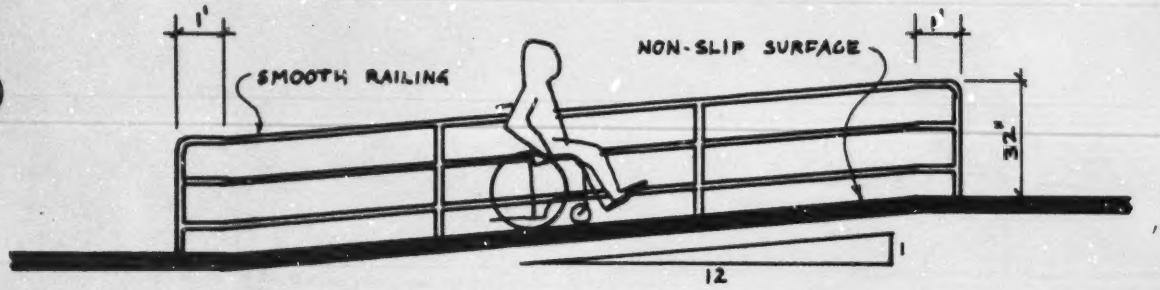
A ramp shall have a surface that is non-slip.

A ramp shall have a level platform at the top which is at least five (5) feet by five (5) feet, if a door swings out onto the platform or toward the ramp. This platform shall extend at least one (1) foot beyond each side of the doorway.

A ramp shall have a level platform of at least three (3) feet deep and five (5) feet wide, if the door does not swing onto the platform or toward the ramp. This platform shall extend at least one (1) foot beyond each side of the doorway.

Each ramp shall have at least six (6) feet of straight clearance at the bottom.

Ramps shall have level platforms at thirty (30) foot intervals for purposes of rest and safety and shall have level platforms whereever they turn. (Figures 4, 5, 6, 7)



A RAMP SHALL HAVE A SLOPE NO GREATER THAN 1' RISE IN 12', OR 8.33 PERCENT OR 4°50'

A RAMP SHALL HAVE HANDRAILS ON AT LEAST ONE SIDE, AND PREFERABLY TWO SIDES, THAT ARE 32" IN HEIGHT, MEASURED FROM THE SURFACE OF THE RAMP

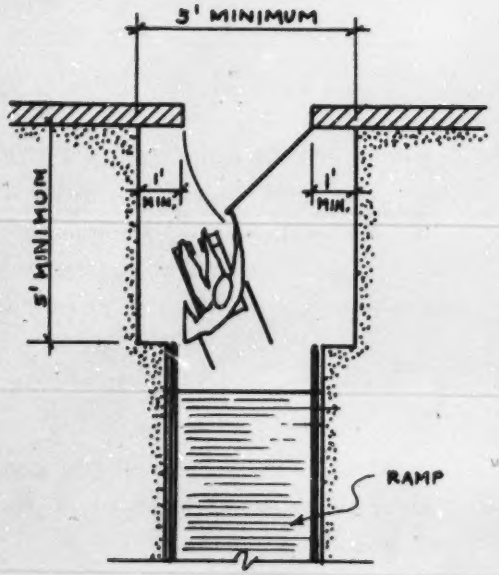
HANDRAILS SHALL BE SMOOTH

HANDRAILS SHALL EXTEND 1' BEYOND THE TOP AND BOTTOM OF THE RAMP

HANDRAILS SHALL OTHERWISE CONFORM WITH AMERICAN STANDARD SAFETY CODE FOR FLOOR AND WALL OPENINGS, RAILINGS AND TOE BOARDS A12.1-1967

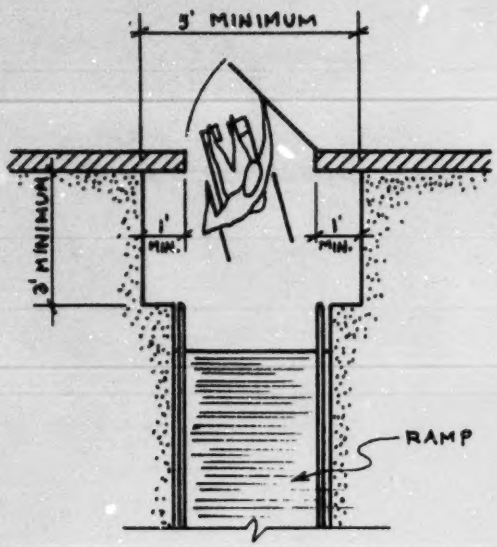
A RAMP SHALL HAVE A SURFACE THAT IS NON-SLIP

Figure 4. Ramp Requirements



A RAMP SHALL HAVE A LEVEL PLATFORM AT THE TOP WHICH IS AT LEAST 5' BY 5' IF A DOOR SWINGS OUT ONTO THE PLATFORM OR TOWARD THE RAMP. THIS PLATFORM SHALL EXTEND AT LEAST 1' BEYOND EACH SIDE OF THE DOORWAY.

Figure 5. Ramp Platform If Door Swings Out



A RAMP SHALL HAVE A LEVEL PLATFORM OF AT LEAST 3' DEEP AND 5' WIDE, IF THE DOOR DOES NOT SWING ONTO THE PLATFORM OR TOWARD THE RAMP, THIS PLATFORM SHALL EXTEND AT LEAST 1' BEYOND EACH SIDE OF THE DOORWAY.

Figure 6. Ramp Platform If Door Swings In

Explanation: While ramps of 1 in 12 slope are usable by the physically handicapped, proper site development can eliminate the need for entrance ramps, and will provide easier access through the use of walks with gentler slopes. This type of site development also affords the opportunity for more aesthetic exterior approaches, such as winding walkways, terraced walkways, etc. It should also be remembered that when a ramp exceeds 12 inches in height, it is most desireable for safety reasons to place handrails on both sides of the ramp.

Section 2107.0 Parking Lots and Building Approaches

A parking lot servicing each entrance described in section 2106.1 shall have a number of level parking spaces as set forth in the following table identified by above grade signs as reserved for physically handicapped persons. Each reserved parking space shall be not less than twelve (12) feet wide.

When a curb exists between a parking lot surface and a sidewalk surface, an inclined curb approach or a curb cut flush with the parking lot surface having textured or rippled surface with a gradient of not more than one (1) foot in twelve (12) feet and a width of not less than four (4) feet shall be provided for wheelchair access:

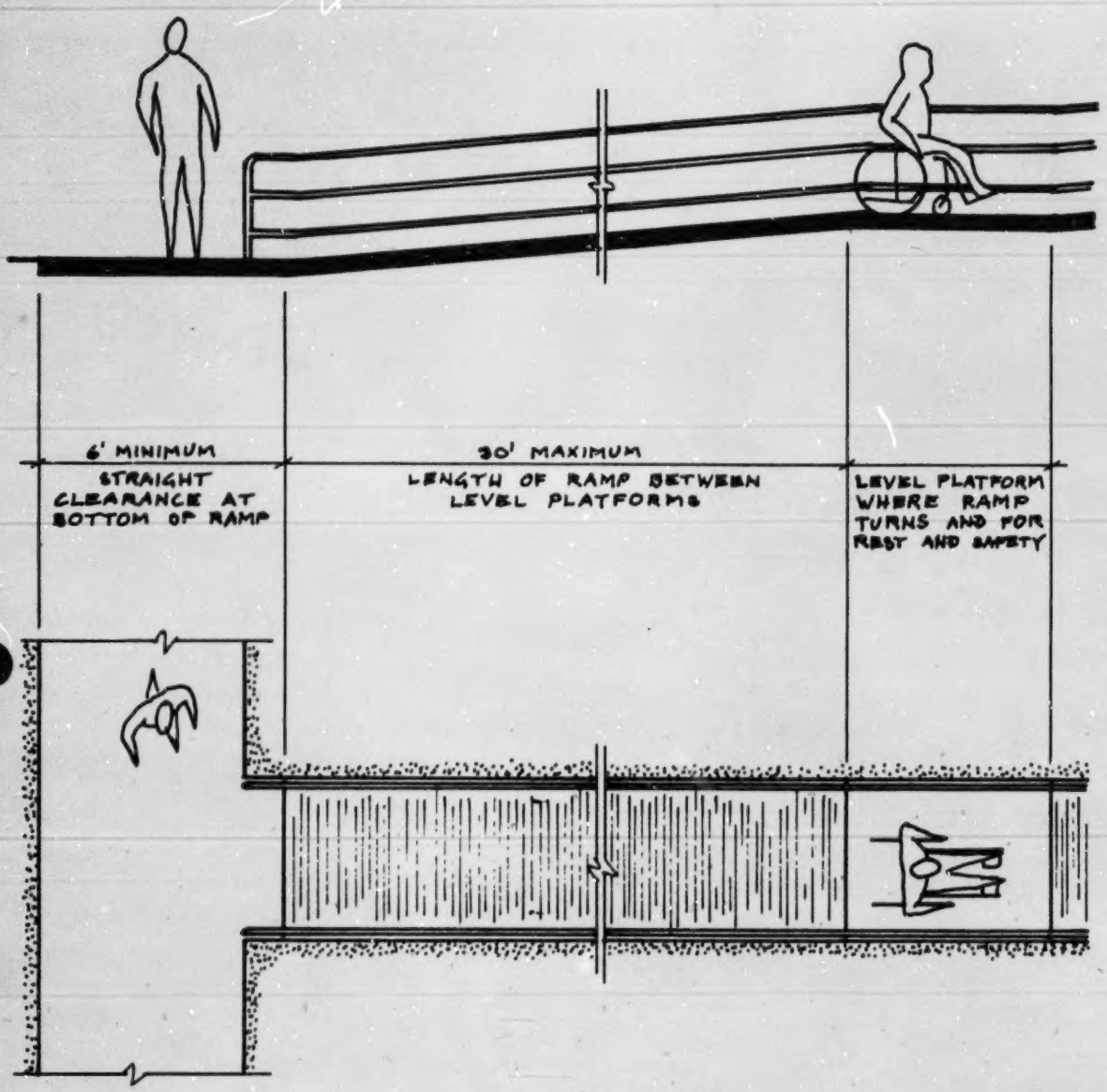
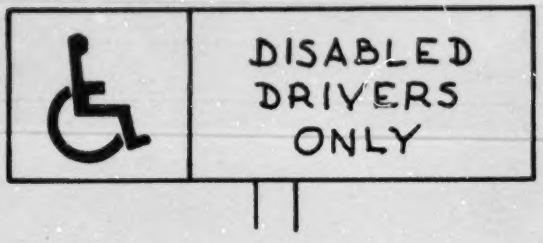

6' MINIMUM
STRAIGHT CLEARANCE AT BOTTOM OF RAMP
30' MAXIMUM
LENGTH OF RAMP BETWEEN LEVEL PLATFORMS
LEVEL PLATFORM WHERE RAMP TURNS AND FOR REST AND SAFETY

Figure 7. Ramp Length and Platform Dimensions



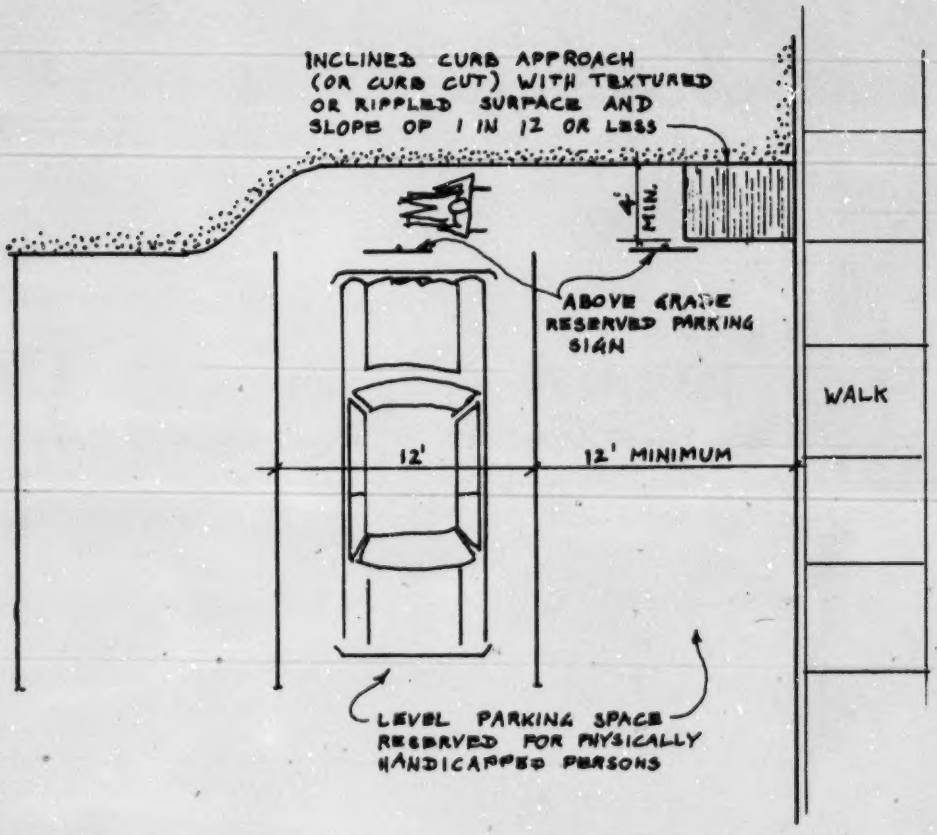


Figure 8. Parking Space Dimensions and Identification

Total Parking in Lot (Required by Other Codes)	Required Number of Accessible Spaces
up to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2% of Total
Over 1000	20 plus 1 for each 100 over 1000

Parking spaces for the physically handicapped shall be located as close as possible to elevators, ramps, walkways, and entrances. Parking spaces should be located so that the physically handicapped persons are not compelled to wheel or walk behind parked cars to reach entrances, ramps, walkways and elevators. (Figure 8)

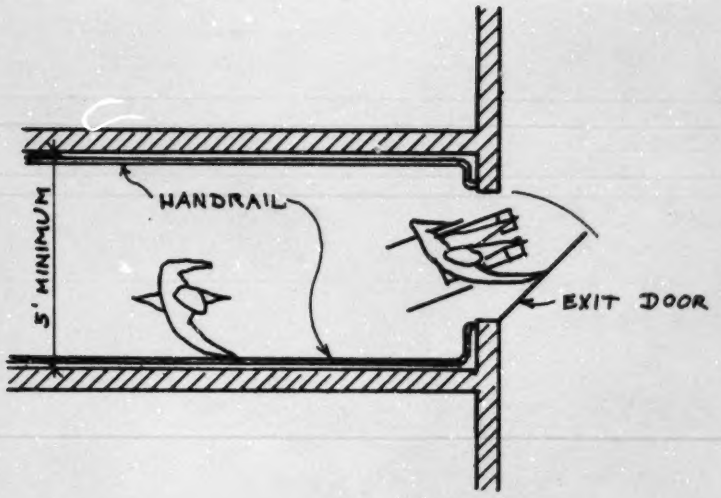
Explanation: Above grade identification signs for parking spaces should incorporate the International Symbol of Access as shown in Figure 8.

Section 2108.0 Interior Access

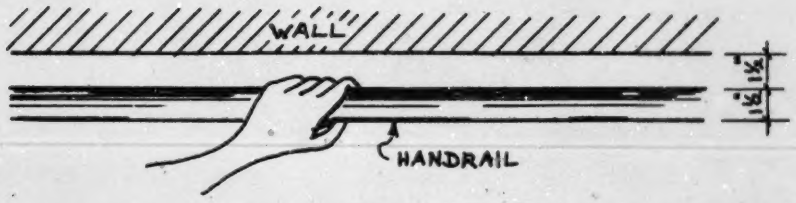
Interior means of access to all floor levels shall be provided by ramps meeting the requirements of Section 2106.21 or elevators and access to all points of each floor level shall be provided by means of passageways, corridors, and doorways meeting the requirements of Section 612, 614 and 617. Exitway access shall be a minimum of sixty (60) inches in width, and have handrails on each side thirty-two (32) inches above the floor with minimum one and one-half (1½) inches outside diameter, mounted with one and one-half (1½) inches clearance between the rail and the wall and shall have a ridged or other non-slip surface. Handrails shall be securely anchored to withstand a force of three hundred (300) pounds. Laundry and storage facilities shall be accessible from the handicapped units in multiple family dwellings. (Use Group L-2). (Figure 9)

Section 2109.0 Access to Electrical Switches, Controls, Fire Alarms and Phones

Light switches, controls, fire alarms, etc., on each floor level shall be located not more than four feet (4) above the floor. Convenience outlets located within dwelling units shall be located not less than eighteen (18) inches above the floor. (Figure 10)



EXITWAY ACCESS SHALL BE A MINIMUM OF 60 INCHES IN WIDTH, AND HAVE HANDRAILS ON EACH SIDE 32" ABOVE THE FLOOR



HANDRAILS SHALL BE A MINIMUM OF 1½ INCHES IN DIAMETER

THERE SHALL BE A CLEARANCE OF 1½ INCHES BETWEEN THE HANDRAIL AND THE WALL

HANDRAILS SHALL HAVE RIDGED OR OTHER NON-SLIP SURFACE

HANDRAILS SHALL BE SECURELY ANCHORED TO WITHSTAND A FORCE OF 300 POUNDS

Figure 9. Exitway Access and Handrail Requirements

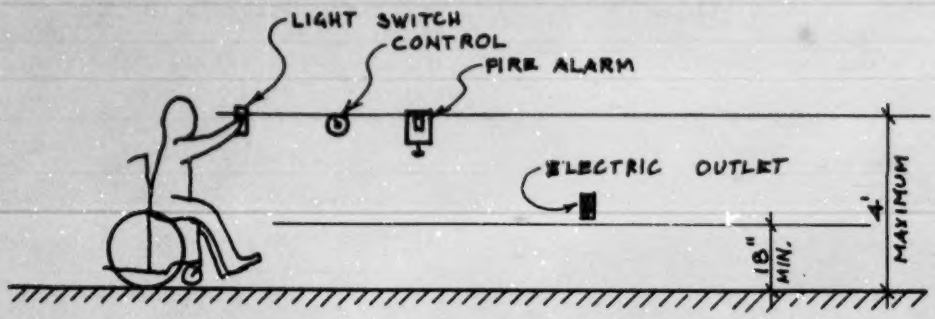

LIGHT SWITCH
CONTROL
FIRE ALARM
ELECTRIC OUTLET
4'
MAXIMUM
18"
MIN.
LIGHT SWITCHES, CONTROLS, FIRE ALARMS ETC., SHALL BE LOCATED NOT MORE THAN 4 FEET ABOVE THE FLOOR
CONVENIENCE OUTLETS SHALL BE LOCATED NOT LESS THAN 18 INCHES ABOVE FLOOR

Figure 10. Switch and Control Access

Section 2110.0 Telephones

Where a public or pay phone is installed, the following shall apply: Five (5) percent of all such telephones or no less than one telephone shall be accessible to, and usable, by physically handicapped persons. Such telephones shall have the coin slot not more than forty-eight (48) inches above the floor.

Such telephones shall be equipped for those with hearing and other disabilities and so identified with instructions for use. (Figure 11)

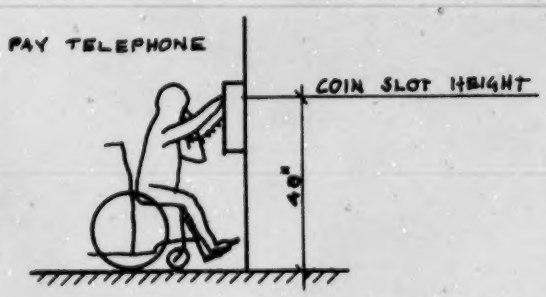


Figure 11. Public Telephone Requirements

Section 2111.0 Elevator Requirements

When interior access in multi-story buildings is provided by elevator(s), elevator service to such levels shall meet the following requirements:

2111.1 The elevator cab shall have a clear area of not less than twenty-five (25) square feet with a minimum dimension of sixty (60) inches.

2111.2 The elevator door shall have a minimum clear opening width of thirty-two (32) inches.

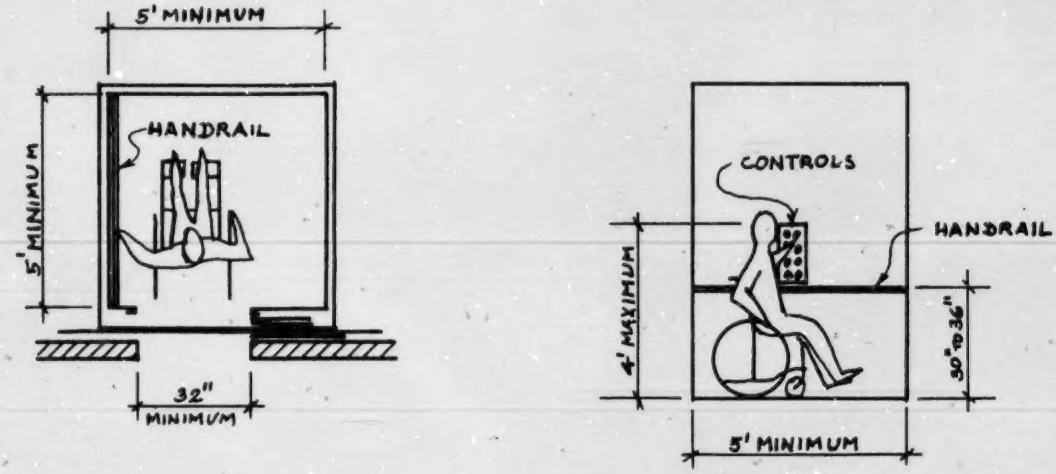
2111.3 The floor and control buttons shall be located not more than forty-eight (48) inches above the floor. "Emergency" and "Hold" Buttons shall be at lowest position on control panel.

2111.4 Metal Braille plates and tactile numbers shall be provided adjacent to all cab control buttons and switches.

2111.5 Metal Braille plates and tactile numbers shall be provided for floor designation on each floor sixty (60) inches above the floor, on the fixed point at the open side of the elevator door.

2111.6 At least one (1) handrail shall be provided within each elevator car located not less than thirty (30) nor more than thirty-six (36) inches above the floor.

2111.7 Elevator car door and hoistway doors shall be automatically power operated and shall be equipped with reopening devices. (Figure 12)



ELEVATOR CAB SHALL HAVE CLEAR AREA OF NOT LESS THAN 25 SQUARE FEET WITH A MINIMUM DIMENSION OF 5' FEET

ELEVATOR DOOR SHALL HAVE A MINIMUM CLEAR OPENING OF 32 INCHES

FLOOR AND CONTROL BUTTONS SHALL BE LOCATED NOT MORE THAN 48 INCHES ABOVE THE FLOOR. EMERGENCY AND HOLD BUTTONS SHALL BE AT THE LOWEST POSITION ON THE CONTROL PANEL

AT LEAST ONE HANDRAIL SHALL BE PROVIDED WITHIN EACH ELEVATOR CAR LOCATED NOT LESS THAN 30 NOR MORE THAN 36 INCHES ABOVE THE FLOOR

ELEVATOR CAR DOOR AND HOISTWAY DOORS SHALL BE AUTOMATICALLY POWER OPERATED AND SHALL BE EQUIPPED WITH REOPENING DEVICES

Figure 12. Elevator Requirements

Explanation: Sufficient clear space need also be provided in front of the elevator door on all stories.

Section 2112.0 Access to Plumbing Fixtures

2112.1 Toilet Rooms: Where male and/or female toilet rooms are provided for the general public, at least one (1) water closet stall as defined in section 2112.2 within each such room shall be accessible to and usable by physically handicapped persons. If the toilet room has other water closet stalls, such toilet room shall have a clear space beyond the room door swing to provide access to the designated stall.

2112.2 The clear floor space in front of such a water closet stall opening shall be not less than forty-eight (48) inches by forty-eight (48) inches. Such water closet stalls shall not be less than thirty-six (36) inches wide by sixty (60) inches long with a clear opening thirty-two (32) inches wide. The door, when provided, shall be out-swinging. Handrails shall be provided on both sides of such water closet not less than forty-eight (48) inches long and mounted thirty-three (33) inches above the parallel to the floor, with the front end positioned twenty-four (24) inches in front of the water closet. Handrails for children, if provided, shall be twenty-eight (28) inches above the floor.

2112.3 The required water closet shall have a seat twenty (20) inches from the floor, (fifteen (15) inches for children). It shall be either wall mounted or floor mounted, having a narrow under structure that recedes sharply from the front. The trap shall not extend in front of, or be flush with the lip of, the bowl. Where only one (1) water closet is required in the facility, a twenty (20) inch model shall be used. (Figure 13)

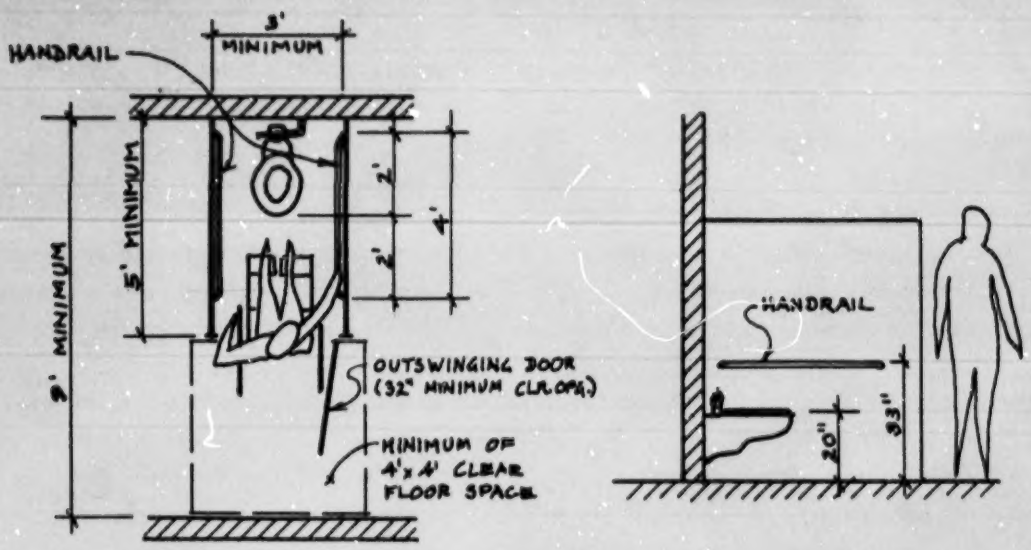
Explanation: For the sake of individual privacy and dignity, doors should be provided on water closet stalls intended for use by the handicapped. If space allows, a wider water closet stall (60 inches if possible) provides greater mobility for many wheelchair confined handicapped.

2112.4 Such toilet rooms for men shall have a wall mounted urinal with the opening of the basin nineteen (19) inches from the floor, or shall have floor mounted urinals that are level with the main floor of the toilet room. Urinal stalls, if provided, shall meet the requirements of water closet stalls. (Figure 14)

2112.5 Lavatories: In each such accessible toilet room there shall be at least one (1) wall mounted lavatory with single lever control, and which projects not less than eighteen (18) inches from the wall with a clear opening under the rim not less than twenty-eight (28) inches high by twenty-six (26) inches wide. The drain pipes and hot water pipes under such lavatory shall be insulated. (Figure 15)

Explanation: The wristblade lever type faucet control is easy to use by a full range of handicapped, including those with upper extremity impairment. Self-closing faucets should be avoided in lavatories intended for use by the handicapped.

2112.6 Showers: Shower cubicles for use by the non-ambulatory and semi-ambulatory physically handicapped, as defined in section 2100.3, shall be not less than three (3) feet by three (3) feet inside dimension with the threshold no more than two (2) inches high. The control valves and soap dish shall be mounted on



CLEAR FLOOR SPACE IN FRONT OF WATER CLOSET STALL OPENING SHALL BE A MINIMUM OF 48 INCHES BY 48 INCHES

MINIMUM STALL WIDTH SHALL BE 36 INCHES

MINIMUM STALL DEPTH SHALL BE 48 INCHES

MINIMUM CLEAR OPENING WIDTH SHALL BE 32 INCHES

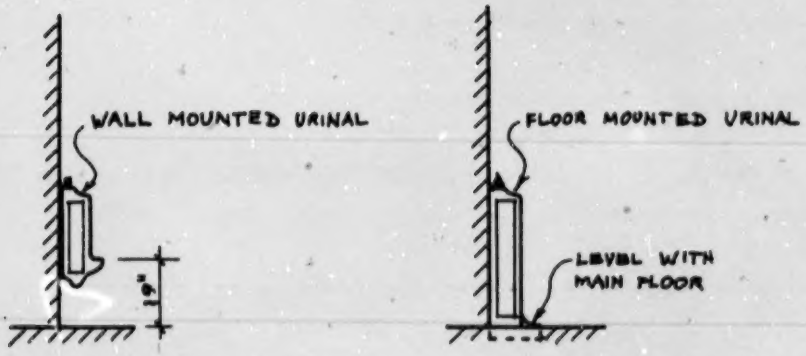
IF DOOR IS PROVIDED, IT SHALL BE OUTSWINGING

HANDRAILS SHALL BE PROVIDED ON BOTH SIDES OF WATER CLOSET NOT LESS THAN 48 INCHES LONG AND MOUNTED 33 INCHES ABOVE FLOOR WITH THE FRONT END POSITIONED 12 INCHES IN FRONT OF THE WATER CLOSET

IF HANDRAILS ARE PROVIDED FOR CHILDREN, THEY SHALL BE MOUNTED 28 INCHES ABOVE THE FLOOR

WATER CLOSET SHALL HAVE A SEAT 20 INCHES FROM THE FLOOR (15 INCHES FOR CHILDREN)

Figure 13. Water Closet Stall Requirements



WALL MOUNTED URINAL SHALL HAVE THE OPENING OF THE BASIN 19 INCHES FROM THE FLOOR

FLOOR MOUNTED URINALS SHALL BE LEVEL WITH THE MAIN FLOOR OF THE TOILET ROOM

Figure 14. Male Urinal Requirements

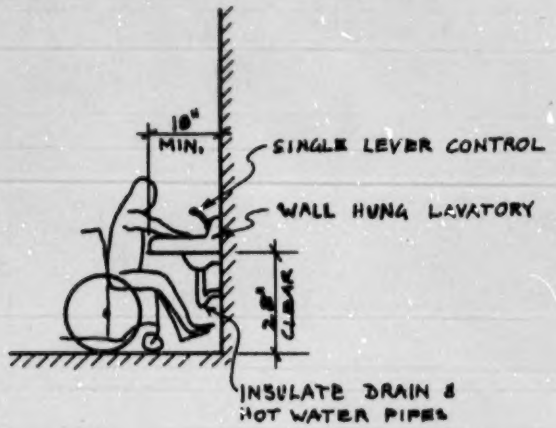

18" MIN.
SINGLE LEVER CONTROL
WALL HUNG LAVATORY
28" CLEAR
INSULATE DRAIN & HOT WATER PIPES
LAVATORY SHALL BE WALL MOUNTED WITH A SINGLE LEVER CONTROL AND PROJECT NO LESS THAN 18 INCHES FROM THE WALL
THERE SHALL BE A CLEAR OPENING UNDER THE LAVATORY RIM OF NOT LESS THAN 28 INCHES HIGH BY 26 INCHES WIDE
DRAIN AND HOT WATER PIPES UNDER LAVATORY SHALL BE INSULATED

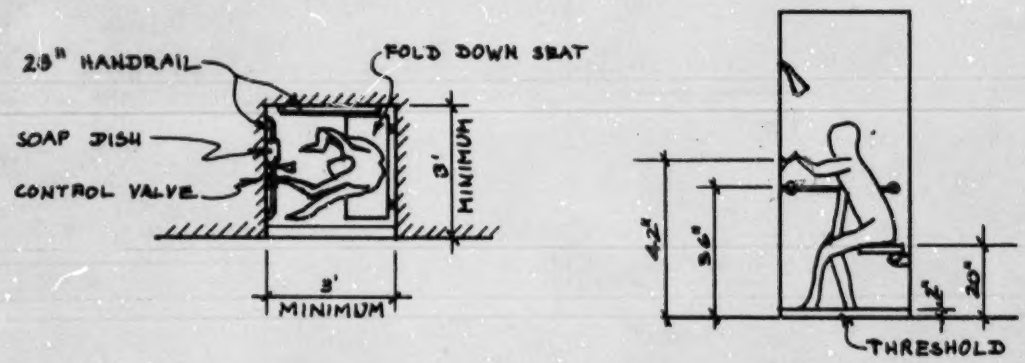
Figure 15. Lavatory Requirements

a side wall forty-two (42) inches above the floor. One (1) handrail twenty-eight (28) inches long shall be mounted thirty-six (36) inches above the floor on the side wall below the control valves and one (1) handrail of the same length and height shall be mounted on the back wall of the cubicle. The water control valve shall have a single mixing lever. A folding wall mounted seat twenty (20) inches high shall be provided. (Figure 16)

Explanation: A shower cubicle intended for use by the non-ambulatory handicapped which has a 2 inch high threshold will be difficult to use, especially for the wheelchair confined. Proper pitch toward the drain and a beveled threshold would enable a person in a wheelchair to roll into the shower stall independently.

2112.7 Accessories: The working part in such rooms (coin slot or lever) of the toilet room accessories such as towel dispenser, electric hand drier, sanitary napkin dispenser and clothes hook shall be no more than forty (40) inches above the floor. At least one mirror shall be full length or shall be mounted with the lower edge no more than thirty-six (36) inches above the floor. At least one towel rack/towel dispenser, toilet paper dispenser, and disposal unit shall be provided, mounted at no more than forty (40) inches above the floor. (Figure 17)

2112.8 Bathrooms: Bathrooms designated for use by the physically handicapped in dwelling units in Use Group L-1 and L-2 structures shall have the space and mounting height requirements specified in this section.



SHOWER CUBICLE SHALL BE NOT LESS THAN 3 FEET BY 3 FEET INSIDE DIMENSION WITH THE THRESHOLD NO MORE THAN ½ INCHES HIGH

CONTROL VALVES AND SOAP DISH SHALL BE MOUNTED ON A SIDE WALL 42 INCHES ABOVE THE FLOOR

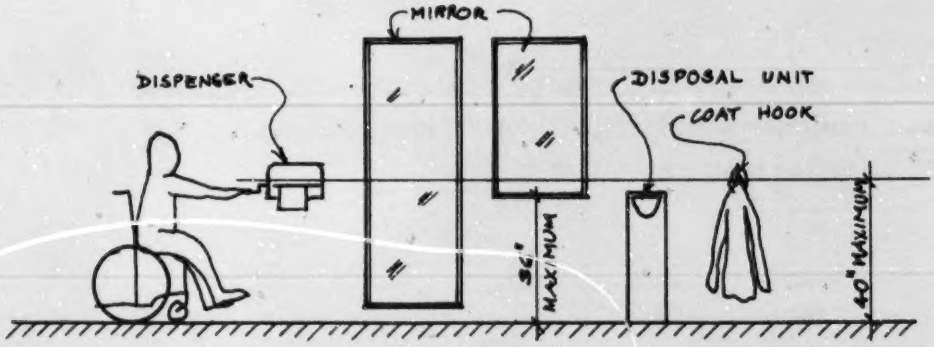
ONE 28 INCH LONG HANDRAIL SHALL BE MOUNTED 36 INCHES ABOVE THE FLOOR ON THE SIDE WALL BELOW THE VALVES

ONE 28 INCH LONG HANDRAIL SHALL BE MOUNTED 36 INCHES ABOVE THE FLOOR ON THE BACK WALL

THE WATER CONTROL VALVE SHALL HAVE A SINGLE MIXING LEVER

A FOLDING, WALL MOUNTED SEAT 20 INCHES HIGH SHALL BE PROVIDED

Figure 16. Shower Cubicle Requirements



COIN SLOT OR LEVER OF TOILET ROOM ACCESSORIES SHALL BE NO MORE THAN 40 INCHES ABOVE THE FLOOR

AT LEAST ONE MIRROR SHALL BE FULL LENGTH OR SHALL BE MOUNTED WITH THE LOWER EDGE NO MORE THAN 36 INCHES ABOVE THE FLOOR

AT LEAST ONE TOWEL RACK/TOWEL DISPENSER, TOILET PAPER DISPENSER AND DISPOSAL UNIT SHALL BE PROVIDED, MOUNTED AT NO MORE THAN 40 INCHES ABOVE THE FLOOR

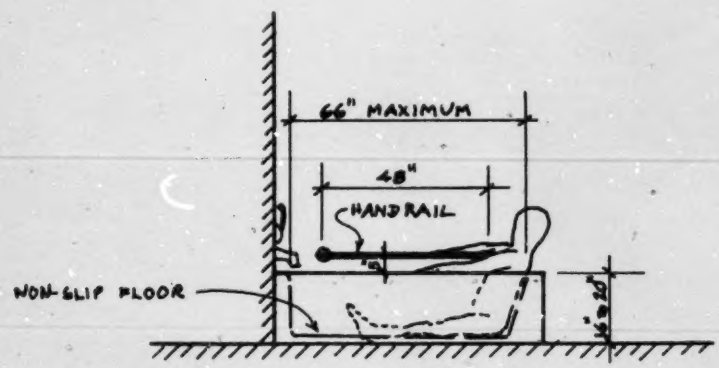
Figure 17. Toilet Room Fixture Requirements

Explanation: This includes all of the following requirements: clear space, water closet, handrails, water closet height, lavatory requirements, shower (if used) design, accessories, bath tub (if used) with handrails, and water temperature.

2112.9 Bath Tubs: Rims shall be not less than sixteen (16) inches nor more than twenty (20) inches above the floor. The interior of bathtubs shall be not more than sixty-six (66) inches long with a non-slip floor finish. One (1) handrail forty-eight (48) inches long shall be mounted five (5) inches above the rim of the tub, centered on the wall.

2112.10 Handrails: Each handrail for use by the physically handicapped for access and support at plumbing fixtures shall be plastic or non-corrodible metal, one and one-half (1½) inches outside diameter, mounted with one and one-half (1½) inches clearance between the rail and the wall and shall have a ridged or other non-slip surface. Handrails shall be securely anchored to withstand a force of three hundred (300) pounds. (Figures 18, 19)

2112.11 Drinking Fountains: Where drinking fountain(s) are required, five (5) percent of all such fountains or no less than one (1) drinking fountain or other water dispensing means shall be accessible to, and usable by such physically handicapped persons. A floor type, wall-mounted or semi-recessed (fully recessed not acceptable unless in an alcove not less than thirty (30) inches wide) drinking fountain or cooler shall have a spout and hand control near the front of the unit with the basin located not more than thirty (30) inches above the floor. Free standing floor type drinking fountains shall also be operated by means of a foot pedal. (Figure 20)



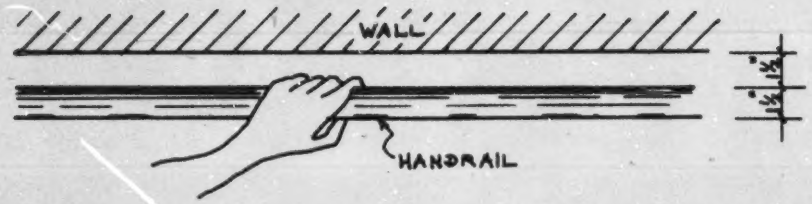
BATHTUB RIMS SHALL BE NOT LESS THAN 16 INCHES NOR MORE THAN 20 INCHES ABOVE THE FLOOR

INTERIOR OF BATHTUBS SHALL BE NOT MORE THAN 66 INCHES LONG

BATHTUBS SHALL HAVE NON-SLIP FLOOR FINISH

ONE 48 INCH LONG HANDRAIL SHALL BE MOUNTED 5 INCHES ABOVE THE RIM OF THE TUB, CENTERED ON THE WALL

Figure 18. Bath Tub Requirements

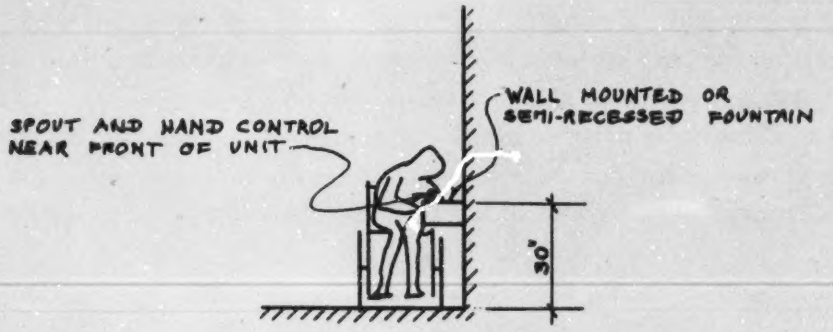


HANDRAILS SHALL BE PLASTIC OR NON-CORRODIBLE METAL 1½ INCHES OUTSIDE DIAMETER, MOUNTED WITH 1½ INCHES CLEARANCE BETWEEN THE RAIL AND THE WALL

HANDRAILS SHALL HAVE A RIDGED OR OTHER NON-SLIP SURFACE

HANDRAILS SHALL BE SECURELY ANCHORED TO WITHSTAND A FORCE OF 300 POUNDS

Figure 19. Bath Tub Handrails



A FLOOR TYPE, WALL MOUNTED OR SEMI-RECESSED DRINKING FOUNTAIN OR COOLER SHALL HAVE A SPOUT AND HAND CONTROL LOCATED NEAR THE FRONT OF THE UNIT

THE BASIN SHALL BE LOCATED NOT MORE THAN 30 INCHES ABOVE THE FLOOR

FREE STANDING FLOOR TYPE DRINKING FOUNTAINS SHALL ALSO BE OPERATED BY MEANS OF A FOOT PEDAL

Figure 20. Drinking Fountain Requirements

Explanation: If only one drinking fountain is provided within a building, it shall be accessible to the handicapped.

2112.12 Water Temperature: Hot water supplied to plumbing fixtures for the physically handicapped shall be no more than one hundred twenty (120) degrees Fahrenheit.

Section 2113.0 Kitchens

Each kitchen in dwelling units designated for use by the physically handicapped in Use Group L-1 and L-2 structures shall meet the following requirements:

2113.1 The clear floor space between opposite cabinets or cabinets and walls shall not be less than five (5) feet, except that clearance may be reduced to four (4) feet when a toe space nine (9) inches high and six (6) inches deep is provided on each side.

2113.2 Counters shall be thirty-six (36) inches above the floor.

2112.3 Kitchen sinks shall be no more than seven and one half (7½) inches deep and be equipped with lever type controls. A space not less than twenty-eight (28) inches above the floor, twenty-six (26) inches wide and twelve (12) inches deep shall be provided under each sink.

2113.4 A work space not less than twenty-six (26) inches wide with a clear opening below not less than twenty-eight (28) inches above the floor, twenty-six (26) inches wide and twenty-four (24) inches deep shall be provided in each kitchen. Work space may be provided by adjustable counters or pull-out sections.

2113.5 Controls for cooking appliances shall be located on front of appliances, or with surface mounted units, at the top front face, parallel with the front edge of the counter. (Figure 21)

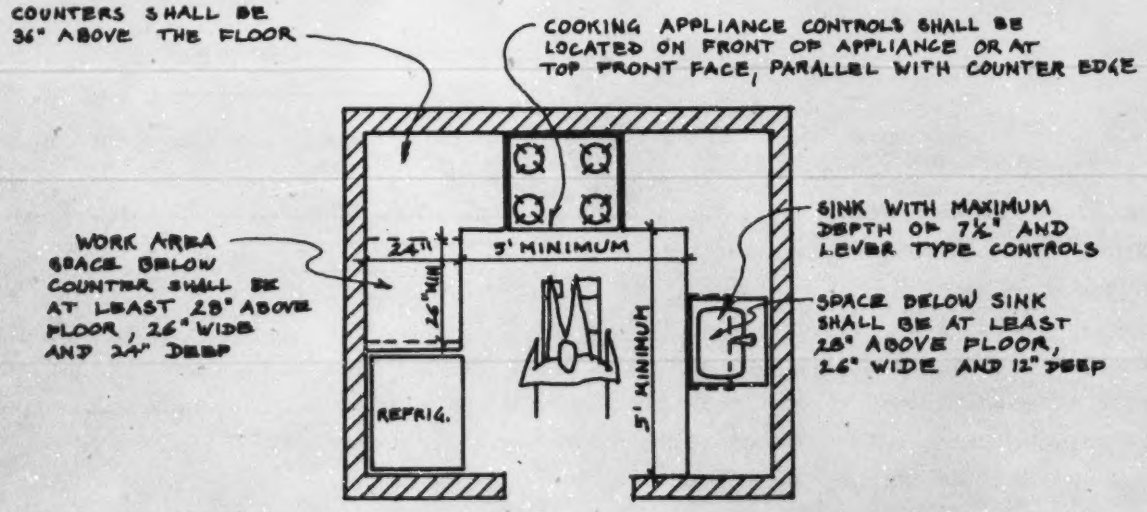

COUNTERS SHALL BE 36" ABOVE THE FLOOR
COOKING APPLIANCE CONTROLS SHALL BE LOCATED ON FRONT OF APPLIANCE OR AT TOP FRONT FACE, PARALLEL WITH COUNTER EDGE
WORK AREA SPACE BELOW COUNTER SHALL BE AT LEAST 28" ABOVE FLOOR, 26" WIDE AND 24" DEEP
24"
5' MINIMUM
26" MIN.
5' MINIMUM
REFRIG.
SINK WITH MAXIMUM DEPTH OF 7½" AND LEVER TYPE CONTROLS
SPACE BELOW SINK SHALL BE AT LEAST 28" ABOVE FLOOR, 26" WIDE AND 12" DEEP

Figure 21. Residential Kitchen Requirements

Explanation: In kitchens intended for use by the handicapped, consideration should be given to the design of wall-hung cabinets so that either the cabinet itself or the interior shelves may be adjusted to a lower height.

Section 2114.0 Seating

2114.1 Seating Accommodations: Places of assembly with fixed seating arrangements shall provide viewing positions for persons in wheelchairs in accordance with the following schedule:

Capacity of Assembly Space	Number of Viewing Positions
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2% of Total
Over 1000	20 plus 1 for each 100 over 1000

Viewing positions for wheelchair persons shall be provided in a reasonable and convenient section or sections of the facility by one of the following methods:

2114.11 Providing portable seats which can be easily removed.

2114.12 Providing clear space devoid of any portable or fixed seating arrangements.

The viewing positions provided by either option shall be level.

2114.2 Location and Access: These positions shall be located to avoid interference with egress from any row of seats, shall be reached by means of ramps and/or elevators, and shall not infringe upon aisle requirements. There shall be no steps in the aisles or in the access route used by the physically handicapped to reach the performance viewing positions, but the aisles may be inclined according to the provisions of Section 617.

Explanation: We recommend integrated viewing positions for the wheelchair handicapped in assembly areas; in other words, viewing positions should be provided on all levels of an assembly occupancy so that the wheelchair user has the freedom of choice in determining a viewing position. Minimum acceptable dimensions of each viewing position are 36 inches wide by 60 inches deep.

Section 2115.0 Checkout Lanes and Turnstiles

Buildings which include checkout lanes shall provide at least one checkout lane on each floor which is made accessible to and usable by the non-ambulatory physically handicapped, as defined in section 2100.3, and where such lanes are used, they shall be not less than thirty-six (36) inches wide. Buildings which utilize turnstiles shall provide a clearly marked alternate route for the physically handicapped which is at least thirty-six (36) inches wide.

Buildings which use fixed mounted poles or other obstructions, either inside or outside, to prevent removal of shopping carts shall have at least one opening thirty-six (36) inches wide at the main entrance, controlled in such a manner that the wheelchair occupant is not unreasonably delayed entering or leaving the building. (Figures 22, 23)

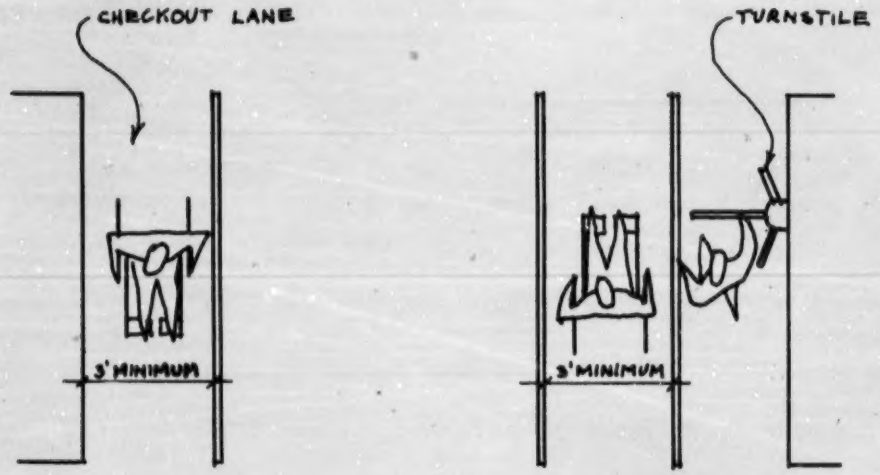

CHECKOUT LANE
TURNSTILE
3' MINIMUM
3' MINIMUM
AT LEAST ONE CHECKOUT LANE SHALL BE 36 INCHES WIDE
BUILDINGS WHICH UTILIZE TURNSTILES SHALL PROVIDE A CLEARLY MARKED ALTERNATE ROUTE FOR THE PHYSICALLY HANDICAPPED WHICH IS AT LEAST 36 INCHES WIDE

Figure 22. Checkout Lane and Turnstile

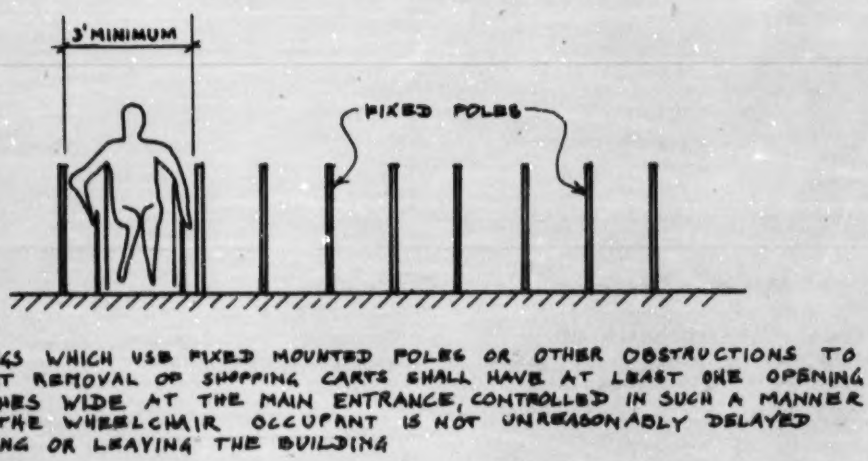

3' MINIMUM
FIXED POLES
BUILDINGS WHICH USE FIXED MOUNTED POLES OR OTHER OBSTRUCTIONS TO PREVENT REMOVAL OF SHOPPING CARTS SHALL HAVE AT LEAST ONE OPENING 36 INCHES WIDE AT THE MAIN ENTRANCE, CONTROLLED IN SUCH A MANNER THAT THE WHEELCHAIR OCCUPANT IS NOT UNREASONABLY DELAYED ENTERING OR LEAVING THE BUILDING

Figure 23. Access Through Fixed Mounted Poles

Explanation: This 36 inch wide opening in buildings which use fixed mounted poles is useless unless it can be negotiated independently by the handicapped. Waiting for a building employee, for ex mple, to operate or unlock such an opening constitutes an unreasonable delay.

Section 2116.0 Identification

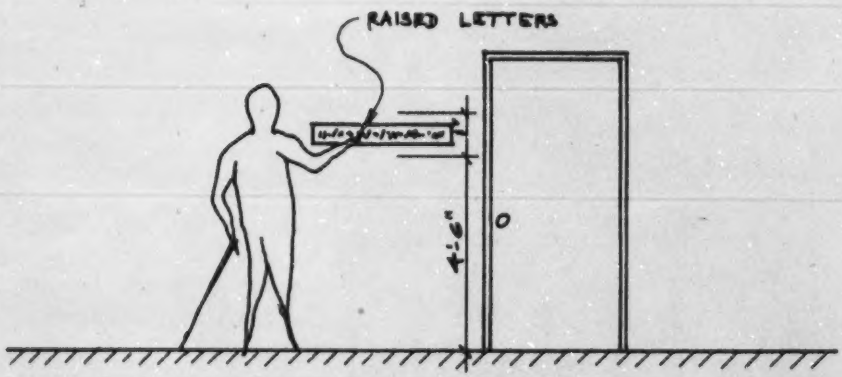
Identification of specific facilities within a building shall be provided to the blind. These requirements shall be met:

Raised letters or numbers shall be used to identify rooms, spaces and offices.

Such identification shall be placed on the wall, to the right or left of the door, at a height between four (4) feet six (6) inches and five (5) feet six (6) inches, measured from the floor, and preferably at five (5) feet.

Doors that are not intended for normal use, and that might prove dangerous if a blind person were to exit or enter by them, shall be made quickly identifiable to the touch by knurling the door handle or knob. Knurling may also be accomplished by the use of an acceptable plastic abrasive coating.

EXAMPLE: Such doors may lead to loading platforms, boiler rooms, stages, fire escapes, etc. (Figures 24, 25)



RAISED LETTERS OR NUMBERS SHALL BE USED TO IDENTIFY ROOMS, SPACES AND OFFICES

SUCH IDENTIFICATION SHALL BE PLACED ON THE WALL, TO THE RIGHT OR LEFT OF THE DOOR, AT A HEIGHT BETWEEN 4 FEET 6 INCHES AND 5 FEET 6 INCHES, MEASURED FROM THE FLOOR, AND PREFERABLY AT 5 FEET

Figure 24. Identification For The Visually Handicapped

DOORS NOT INTENDED FOR NORMAL USE WHICH MAY PROVE HAZARDOUS IF A BLIND PERSON WERE TO ENTER OR EXIT THEM SHALL HAVE A KNURLED DOOR HANDLE OR KNOB

Figure 25. Knurled Door Handle

Section 2117.0 Warning Signals

Where warning signals are required by other codes, these requirements shall be met:

Audible warning signals shall be accompanied by simultaneous visual signals for the benefit of those with hearing disabilities.

Visual signals shall be accompanied by simultaneous audible signals for the benefit of the blind.

Section 2118.0 Hazards

Every effort shall be exercised to obviate hazards to individuals with physical disabilities:

Access panels or manholes in floors, walks, and walls shall be avoided.

When manholes or access panels are open and in use, or when an open excavation exists on a site, particularly when it is approximate to normal pedestrian traffic, barricades shall be placed on all open sides, at least eight (8) feet from the hazard and warning devices shall be installed in accordance with 2117.0.

Low-hanging door closers that remain within the opening of a doorway when the door is open, or that protrude hazardously into regular corridors or traffic ways when the door is closed, shall be avoided.

Low-hanging signs, ceiling lights, and similar objects or signs and fixtures that protrude into regular corridors or traffic ways shall be avoided. A minimum height of seven (7) feet, measured from the floor, is required.

Lighting on ramps shall be in accord with section 626.0.

Exit signs shall be in accord with section 625.0, except as modified by 2116.0 of this article.

Section 2119.0 Doors and Doorways

These requirements apply:

A. Door openings shall have a clear width of no less than thirty-two (32) inches when doors are in the open position and doors shall be operable by a single effort.

B. Two-leaf doors are not acceptable unless they operate by a single effort or unless one of the two leaves meet the requirements of this section.

C. All such doors shall have kick plates extending from the bottom of the door to at least sixteen (16) inches from the floor, or the door shall be made of a material and finish that will safely withstand the abuse it might receive from canes, crutches, wheelchair foot-platforms, or wheelchair wheels.

The floor on the inside and outside of each doorway shall be level for a distance of five (5) feet from the door and shall extend one (1) foot in width beyond both sides of the door.

Sharp inclines and abrupt changes in level shall be avoided at doorsills. As much as possible, thresholds shall be flush with the floor. (Figures 26, 27)

Explanation: Consideration should be given also to door hardware; generally, a lever type handle permits easy operation for the handicapped. If permissible, power-operated doors allow the handicapped the easiest entry and egress. Care should also be given to the avoidance of drainage grates, door mats, and other obstructions at doorways normally used by the handicapped.

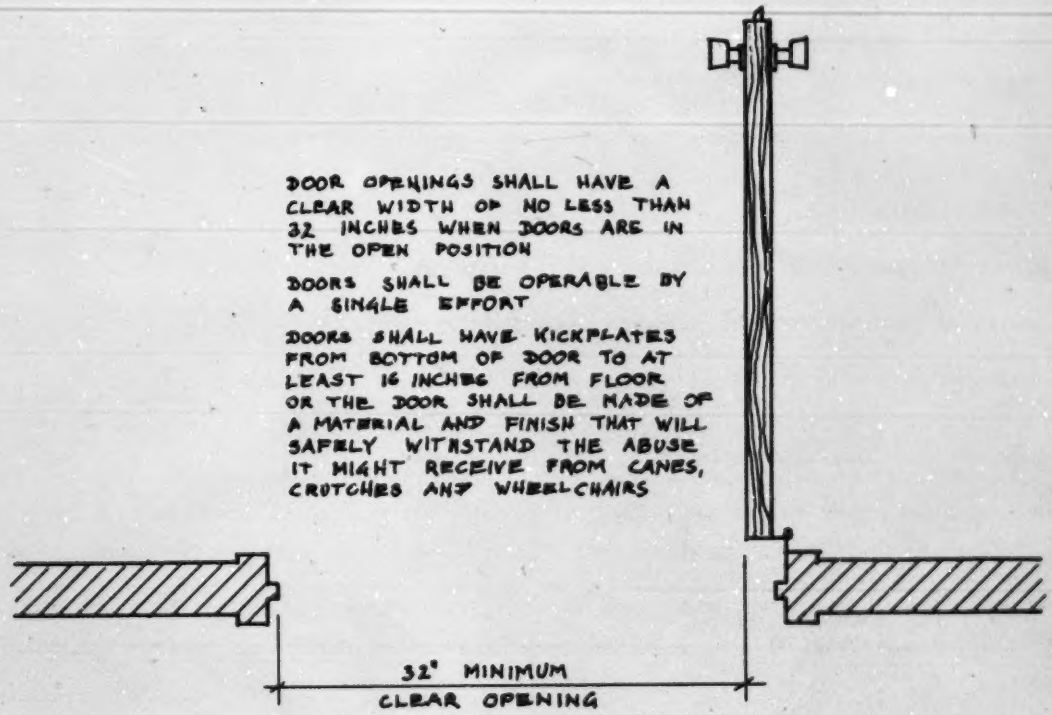
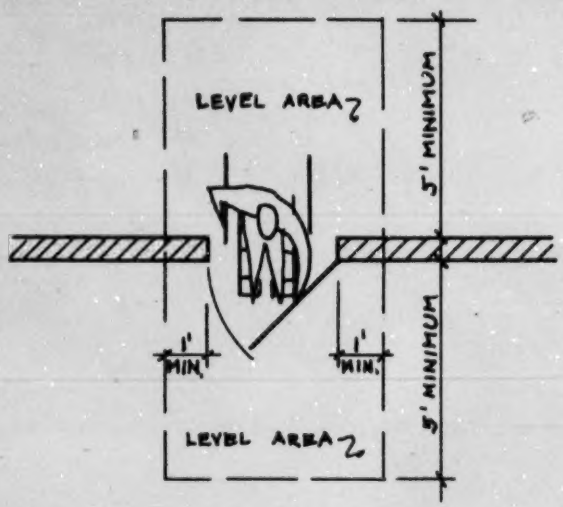

DOOR OPENINGS SHALL HAVE A CLEAR WIDTH OF NO LESS THAN 32 INCHES WHEN DOORS ARE IN THE OPEN POSITION
DOORS SHALL BE OPERABLE BY A SINGLE EFFORT
DOORS SHALL HAVE KICKPLATES FROM BOTTOM OF DOOR TO AT LEAST 16 INCHES FROM FLOOR OR THE DOOR SHALL BE MADE OF A MATERIAL AND FINISH THAT WILL SAFELY WITHSTAND THE ABUSE IT MIGHT RECEIVE FROM CANES, CRUTCHES AND WHEELCHAIRS
32" MINIMUM CLEAR OPENING

Figure 26. Door and Doorway Requirements



THE FLOOR ON THE INSIDE AND OUTSIDE OF EACH DOORWAY SHALL BE LEVEL FOR A DISTANCE OF 5 FEET FROM THE DOOR AND SHALL EXTEND 1 FOOT IN WIDTH BEYOND EACH SIDE OF THE DOOR

Figure 27. Floors Adjacent To Doorway

Section 2120.0 Stairs

Stairs shall conform to section 618.0, with the following additional requirements:

Steps in stairs shall not have an abrupt (square) nosing.

Stairs shall have handrails thirty-two (32) inches high as measured from the tread at the face of the riser.

Stairs shall have at least one handrail that extends at least eighteen (18) inches beyond the top step and beyond the bottom step.

Steps shall be in conformation with the existing step formulas and have risers that do not exceed seven (7) inches.

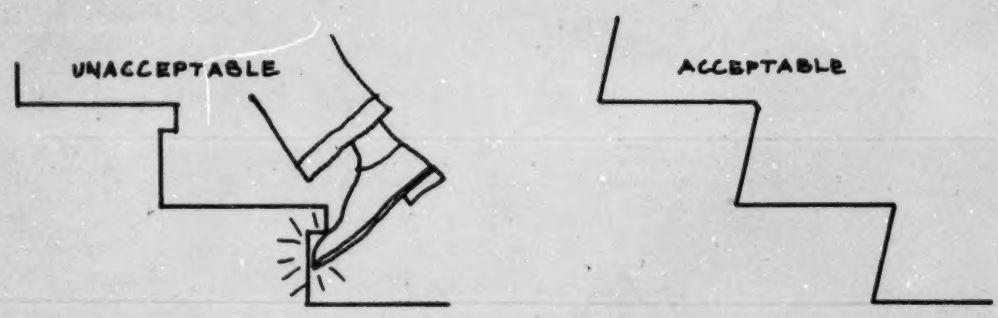
Such stairs shall be sixty (60) inches in width. (Figure 28)

Explanation: Stairs may not be used: (a) as part of the primary entrance to a building for the handicapped; (b) as part of the route of travel from a parking area or street to the primary entrance; (c) as part of the route of travel to an accessible elevator; (d) as part of interior means of access to all levels and facilities intended to be used by the handicapped.

Section 2121.0 Floors

Floors on any such given story shall have a surface that can be demonstrated to be skid-resistant.

Floors on any such given story shall be of a common level throughout or be connected by a ramp in accord with 2106.21.



STEPS IN STAIRS SHALL NOT HAVE AN ABRUPT (SQUARE) NOSING

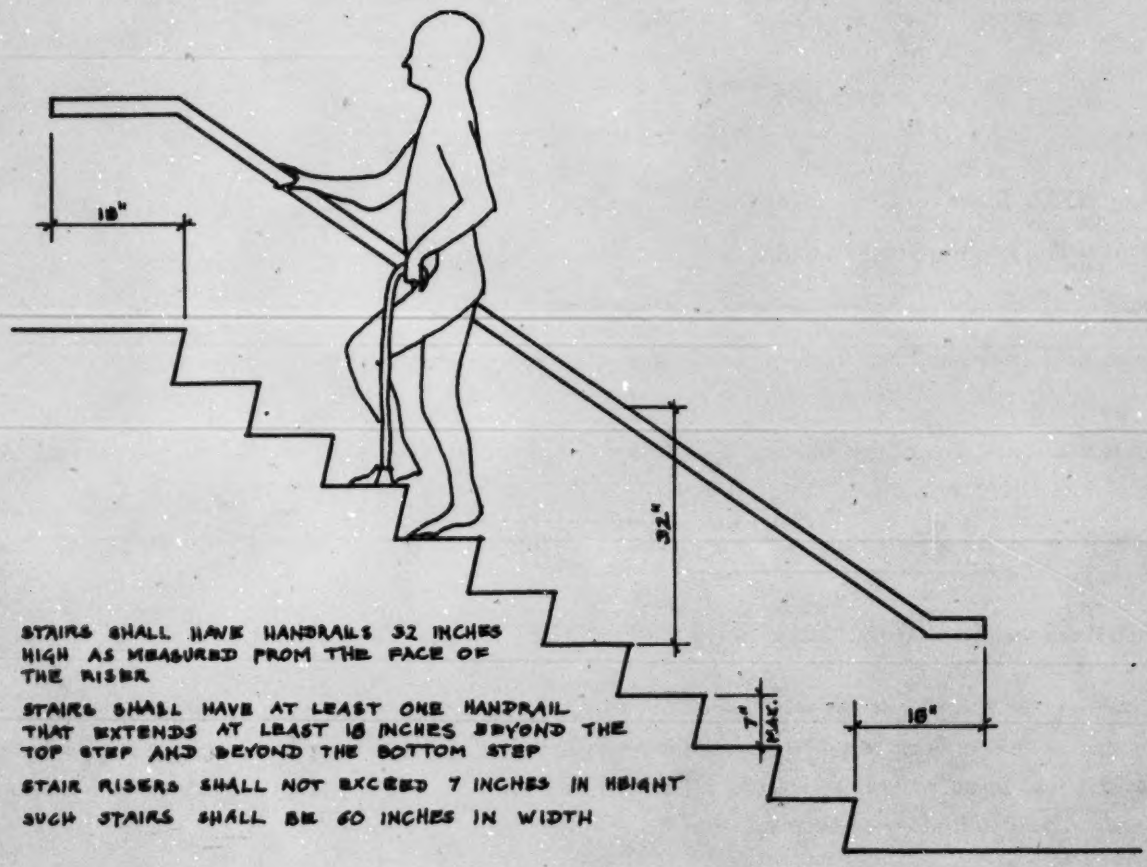

18"
32"
7" MAX.
18"
STAIRS SHALL HAVE HANDRAILS 32 INCHES HIGH AS MEASURED FROM THE FACE OF THE RISER
STAIRS SHALL HAVE AT LEAST ONE HANDRAIL THAT EXTENDS AT LEAST 18 INCHES BEYOND THE TOP STEP AND BEYOND THE BOTTOM STEP
STAIR RISERS SHALL NOT EXCEED 7 INCHES IN HEIGHT
SUCH STAIRS SHALL BE 60 INCHES IN WIDTH

Figure 28. Stair Requirements

NOTES

NOTES

INTRODUCTION

The primary law in Pennsylvania which requires building accessibility for the handicapped is Act No. 235, effective September 1, 1965. This law has been amended on four occasions since 1965: Act No. 570, January 26, 1966; Act No. 73, May 17, 1972; Act No. 216, October 2, 1974; and Act. No. 176, July 9, 1976. All of these laws, except the most recent Act No. 176, are incorporated within Pennsylvania Code Title 34, Chapter 47, Subchapter D, beginning on page PA-14.

As of this writing, Act No. 176 had not been printed in the Pennsylvania Code available to the public. Thus, it is reproduced by itself on page PA-31. The reader should know that Act No. 176 makes substantive changes to the requirements of Title 34, Chapter 47, Subchapter D.

CHAPTER 37. PROTECTION FROM FIRE AND PANIC

Subchapter A. PRELIMINARY PROVISIONS

§ 37.2. Purpose.

This Chapter sets forth the standards of strength and fire resistance in any building or structure to which these provisions apply. This Chapter does not prevent the use of materials, methods of construction, or equipment which meet adopted standards.

Explanation: Materials, methods of construction, or equipment which exceeds adopted standards should also be permitted, since adopted "standards" are understood most frequently to be minimum standards.

§ 37.3. Scope.

Unless otherwise specified in the respective Subchapters, the provisions of this Chapter apply to every building within this Commonwealth except cities of first class, second class and second class A asenumerated in section 2 of act of April 27, 1927 (No. 299), as amended (35 P.S. § 1222) and as enumerated in this Chapter. These rules shall be understood not to limit the power of cities, towns, and villages to make or enforce additional or more stringent regulations.

Explanation: According to the Department of Labor and Industry, the cities of Philadelphia, Pittsburgh, and Scranton are the only municipalities within the Commonwealth which currently are designated as first, second, or second class A cities. The regulations in building construction for the disabled within the class cities mentioned mandate greater access than the state-wide regulations. Also, this provision suggests that the State code is a minimum requirement and that more restrictive rules for the physically handicapped may be legislated by municipalities.

§ 37.4. Penalty.

Anyone who violates the provisions of this Chapter or any regulations of the Department or who interferes with the Department or its duly authorized representative in the enforcement of such provisions or regulations shall be subject to summary proceedings before an alderman, magistrate, or justice of the peace, and upon conviction shall be penalized under the provisions of section 13 of act of April 27, 1927 (No. 299), as amended (35 P.S. § 1233).

Explanation: These regulations contain very effective enforcement rules, as spelled out in the pages ahead, Subchapter M, "Rules of Procedure for Enforcement of Fire and Panic Law."

§ 37.11. Modification of the provisions.

(a) Any person interested or affected by such rules may petition for a hearing on the reasonableness of such rules by filing a petition with the Department at Harrisburg, Pennsylvania, for a hearing before the Advisory Board setting forth the rule or rules upon which a change is desired and the reasons for such change.

(b) The Advisory Board shall hear any appeal at its next meeting, if the petition is filed ten days prior to such meeting or at a meeting called for such hearing by the Department, who shall notify the petitioner in writing of the date when the appeal will be heard.

Explanation: This is a mechanism within these regulations which advocacy groups for the physically handicapped could utilize. It must be remembered that these regulations implement statutory law. As such they may be changed as long as the intent of the law is maintained. It is the Advisory Board's responsibility to determine if a proposed change in these regulations can be accomplished within the framework of Act No. 299 as amended, or if additional legislative action is necessary.

§ 37.13. Binding, sale, and revision of the provisions.

The provisions of this Chapter shall be printed and bound in a looseleaf binder and copies distributed upon the payment of an amount which shall be decided upon by the Department. A record shall be kept by the Department of all those purchasing these provisions and all future revisions or interpretations of them shall be mailed to purchasers semiannually for insertion into the binder.

Explanation: This is a worthwhile system which enables building enforcement officials, architects, engineers, municipal planners, and disabled advocacy groups to maintain a current record of building provisions in the Commonwealth.

§ 37.14. Advisory Board.

(a) Size and compositions. For the purpose of determining factual interpretations amending or repealing any of the provisions of this Chapter, the Secretary will appoint an Advisory Board on Building Construction consisting of ten members, who shall be three registered architects, two registered engineers, two representatives of labor, two representatives of the building construction industry and one representative of the Department who shall be the chairman.

Explanation: The Secretary of the Department of Labor and Industry still maintains the authority tc issue final provisions for these regulations. As put forth in § 37.11, any interested person may suggest changes in these regulations and may be granted a hearing by the Advisory Board. This Board, then, may make recommendations for change to the Secretary. Yet, it must be remembered that this Board functions solely in an advisory capacity. Final regulatory power remains with the Secretary. The Advisory Board should be expanded to include two (2) representatives from advocacy groups for the disabled.

§ 37.18. Separate regulations.

(a) The following is a list of separate provisions in addition to the provisions of this Chapter which are under the jurisdiction of the Department. These provisions are authorized separately from the Fire and Panic Law (No. 299) (35 P.S. § 1221 et seq.).

Handicapped, buildings and facilities usable by the physically

Explanation: The important point here is that the Department of Labor and Industry is responsible for the enforcement of provisions (among others) concerning buildings and facilities usable by the physically handicapped, Subchapter D - Miscellaneous Provisions of Chapter 47 of this Code. See pp. PA.14.

SUBMISSION OF PLANS

§ 37.21. Detailed architectural plans.

(a) Submission and approval. Before any building to which these regulations apply is erected, adapted, remodeled or altered, detailed architectural plans and elevations for all new construction, all remodeling or alteration work and line drawings to scale for all other portions of the existing buildings showing means of egress shall be submitted to and approved by the Bureau of Occupational and Industrial Safety, Buildings Division, Department of Labor and Industry, as required under section 8 of the act of April 27, 1927 (No. 299), as amended (35 P.S. § 1221 et seq.). All drawings shall be submitted in triplicate. In cases where emergency lighting systems, fire alarm systems, or fire extinguishing apparatus are required by this Subchapter, these requirements shall be completely shown on or with the drawings submitted before approval of the building may be obtained.

Explanation: Much of the Department's enforcement responsibility concerning facilities for the physically handicapped can be met at this stage if care is taken to ensure that the minimum design requirements for the disabled of this Chapter and of Chapter 47 are included in these detailed architectural plans.

§ 37.29. Inspections by the Department.

The Department will inspect all buildings under construction, alteration, or repair, when deemed necessary, for compliance with the regulations of this Chapter.

Explanation: Again, the regulations of Chapter 47 governing "Facilities for the Handicapped" are part of the inspection responsibility of the Department of Labor and Industry. This rule ensures that the inclusion of facilities for the disabled in detailed architectural plans will be "doubly checked" in actual on-site inspections.

Subchapter C. BUILDING REGULATIONS BASED ON OCCUPANCY AND HEIGHT

OCCUPANCY CLASSIFICATIONS

§ 37.51. Classes of buildings.

Classes of buildings intended to be covered by section 2 of act of April 27, 1927 (No. 299), as amended (35 P.S. § 1222) are as follows:

(1) Class I. Factories, power plants, mercantile buildings, hotels, office buildings, hospitals, asylums, public and private institutions, convalescent and nursing homes, schools, colleges, school and college auditoriums and gymnasiums when used for public assemblages, airports, airport buildings, airplane hangars, dormitories, warehouses, garages, farm buildings when used on a commercial basis, and all other buildings specified by the Department not enumerated in classes II, III, IV, and V, wherein persons are employed, housed, or assembled.

(2) Class II. Theaters and motion picture theaters.

(3) Class III. Public halls, dance halls, banquet halls, lodge halls, churches, skating rinks, armory halls, or any other auditorium in which the public assembles, not used for any of the other purposes mentioned in this act.

(4) Class IV. Tenement houses, apartment houses, apartment hotels, club houses, lodging houses and rooming houses.

(5) Class V. Grandstands, stadiums, amphitheaters, and summer theaters.

§ 37.52. Occupancy groups.

(a) Classes shall be divided into occupancy groups. Every building, whether existing or new, shall be classified by the Department according to its use or the character of the occupancy as one of the occupancy goups A—F inclusive, as follows:

(1) A—Assembly.

(2) B—Educational.

(3) C—Group habitation.

(4) D—Commercial, industrial, and office.

(5) E—Accessory, incidental or miscellaneous.

(6) F—Working stages.

(b) Any occupancy which is doubtful or not specifically mentioned or directly implied will be classified by the Department and will be included in the group which its use most nearly resembles, based on the existing or proposed life and fire hazard.

§ 37.54. Change in character of occupancy.

No change shall be made in the character of occupancy or use of an existing building, or part thereof, to a different occupancy group, unless such building, or part thereof, complies with the requirements of this Chapter for that group, except that the character of occupancy of existing buildings may be changed subject to the approval of the Department and the building may be occupied for purposes in other groups without meeting all the requirements of this Chapter for these groups, if the new or proposed use or occupancy is less hazardous based on life and fire risk, than the existing use. If a proposed occupancy of an existing building is not in compliance with the provisions of this Chapter but actually introduces no greater hazard to life and property than the existing or previous occupancy, the Board, by unanimous vote, may approve issuance of a certificate of occupancy.

Explanation: To our understanding, a change in occupancy or use from one group to another cannot be made unless the requirements of the new use group are met. This is the rule. The exception is that the Advisory Board, upon unanimous approval, may allow a change to a different use group without compliance with this new use group's rules only if the change constitutes a move to a less-hazardous use group.

§ 37.55. Occupancy separations.

(a) When portions of a building or structure containing more than one classification of occupancy have each classification of occupancy separated from all other classifications by unpierced occupancy separations, as shown in § 37.57 of this Title (relating to hour separations between classes of occupancy), each portion thus separated shall be considered a separate building or structure, and limitations given for separate buildings shall govern. Buildings and structures not separated shall be considered joint or mixed occupancy and governed by the most restrictive of the various limitations of the occupancies.

(b) Occupancy separations shall be vertical, horizontal, or both, or where necessary, of such other form as may be deemed necessary by the Department to afford complete separation between the various occupancy areas in the building or structure.

Explanation: This provision clarifies the separation requirements concerning a multiple and a mixed occupancy building. Provisions for the handicapped could be required in either case. In a mixed occupancy situation, the use group with the most restrictive requirements is to be complied with; however, for a multiple occupancy building, the rules of each separate use group govern construction.

GROUP A OCCUPANCIES (ASSEMBLY)

§ 37.61. General classifications.

(a) Group A occupancies shall be the primary and intended use of any building or structure for the purpose of assembly of persons for amusement, entertainment, education, instruction, worship, transportation, recreation, sports, military drilling, dining, or similar purposes with admission either public or restricted.

(b) For the purpose of defining structural and height limitations, group A is divided into the following divisions:

Group	Capacity
A-1	1001 or more
A-2	751–1000
A-3	501–750
A-4	251–500
A-5	76–250

(c) A room having a capacity of 75 or less shall not be included under group A occupancy classification if the assembly of persons therein is incidental or accessory to another occupancy classification.

Explanation: To our understanding according to subprovision (c), if a room or building has a capacity of 75 or fewer persons and the assembly of persons therein is not accessory to another occupancy classification, then it must still be deemed a Group A Assembly occupancy. Most importantly, § 37.272. (10) requires that all new construction of Assembly buildings must have one level or ramped means of egress if total floor area exceeds 15,000 square feet.

GROUP B OCCUPANCIES (EDUCATIONAL)

§ 37.81. Types of buildings included.

(a) Group B occupancies shall be the primary and intended use of any building or structure or any part thereof for the purpose of education, instruction, or recreation. Auditoriums and gymnasiums shall meet group A exit requirements.

Explanation: Provision 37.272.(10) requires that all new construction of Educational occupancies shall have one means of egress level or ramped if total floor area exceeds 15,000 square feet. It is our opinion that every new Educational building, regardless of square footage, should be accessible to and usable by the physically handicapped.

GROUP C OCCUPANCIES (GROUP HABITATION)

§ 37.91. General classification.

(a) Group C occupancy shall be the use of any buildings for residence habitation by three or more persons as provided in §§ 37.92–37.93 of this Title (relating to division C-1; and division C-2).

§ 37.92. Division C-1.

(a) Division C-1 shall include group habitation where the occupants are under restraint, or are physically or mentally handicapped, or are partially or completely disabled. Hospitals, sanitariums, nursing, convalescent or rest homes, boarding homes for the aged, orphanages, jails, reformatories, houses of correction, and the like shall be in this classification.

(b) Nursing, convalescent or rest homes, and boarding homes for the aged which are subject to special regulations and licensure by the Department of Public Welfare.

(c) The term "mentally handicapped" as used in this Chapter as it applies to mentally retarded persons shall include all persons primarily requiring medical, nursing, psychiatric, or custodial care. The term "mentally handicapped" as it applies to mentally retarded persons shall not include mentally disabled persons who do not primarily require medical, nursing, psychiatric, or custodial care for life supportive purposes and who have been so certified by the Department of Public Welfare.

§ 37.93. Division C-2.

(a) Division C-2 shall be group habitation other than the categories included under division C-1. Hotels, apartments, apartment hotels, multiple dwellings, dormitories, convents, monasteries, lodging houses, and the like shall be in this classification.

§ 37.98. Auditoriums.

If any C-1 or C-2 occupancy group building contains an auditorium or other A occupancy group room, such room shall be in accordance with the requirements for A occupancy group buildings.

Explanation: To our understanding, all new Division C-1 Group Habitation buildings shall be constructed obviously to the requirements of Chapter 47, Subchapter M of this Code, since most Division C-1 buildings are intended for use by the handicapped. Division C-2 Group Habitation buildings of new construction in excess of 15,000 square feet are required to have one level or ramped means of egress according to provision 37.272.(10).

GROUP D OCCUPANCIES (COMMERCIAL, INDUSTRIAL, OFFICE)

§ 37.111. General classification.

Group D occupancies shall be the primary and intended use of any building or structure or any part thereof for commercial, industrial, storage, office, or other like purposes.

§ 37.112. Substances included in division D-1.

Division D-1 (extra hazardous) shall include occupancies involving highly combustible, explosive or unstable products or materials that constitute a special fire, life, or toxic hazard because of the form, characteristics or volume of the materials used. Every building or portion thereof used for the manufacturing, assembling, processing, or use, of highly combustible, flammable, explosive, or unstable materials shall be classified under D-1 occupancy.

§ 37.115. Substances included in division D-2.

Division D-2 (hazardous) shall include occupancies involving highly combustible products or materials that constitute an unusual fire and life hazard because of the form, characteristics, and volume of the material used. Every building, structure or any part thereof used for storage, warehousing, manufacturing, processing, use or sale of highly combustible products or materials shall be classified under D-2 occupancy (paint spray booths not included).

§ 37.118. Substances included in division D-3.

Division D-3 (light hazard) shall include occupancies involving the manufacture, assembling, warehousing, use, sale, or storage of combustible but not highly flammable products and materials.

§ 37.119. Division D-4.

(a) Division D-4 shall apply to the grade portion of open deck parking garages in which at least 50% of two sides of the building do not have enclosing walls and in which only the parking of passenger automobiles is permitted.

§ 37.120. Division D-5.

Division D-5 (nonhazardous) shall include occupancies not included under division D-1, D-2, D-3, or D-4, and involving lesser hazards than those stated.

Explanation: Once again, we point out that provision 37.272.(10) requires that all new Group D construction in excess of 15,000 square feet shall have one means of egress either at level grade or equipped with a ramp.

GROUP E OCCUPANCIES (ACCESSORY OR MISCELLANEOUS)

§37.131. General classification.

Group E occupancy (accessory, incidental, or miscellaneous) shall be any accessory occupancy connected with any of the other defined occupancies but housed in a separate structure not exceeding the ground area of the building of primary use, an occupancy incidental to a primary use of land, or any occupancy which is not otherwise classified in this Chapter.

GROUP F OCCUPANCIES (WORKING STAGE)

§ 37.141. General Classification.

Group F occupancy (working stage) shall be permanent stage, in connection with any occupancy, which is equipped, or adaptable for equipment, with a rigging loft or fly gallery, and which is used for theatrical, musical and like performances.

Subchapter E. BUILDING REGULATIONS FOR STAIRS AND EXITS

GENERAL PROVISIONS

§ 37.261. Definitions.

Ramps – Wherever stairs are mentioned, ramps may be substituted. Except as stated in this Subchapter, ramps shall comply with all the requirements for stairs.

Explanation: While the use of ramps does not provide total accessibility for the handicapped, their use in place of stairs is encouraged whenever possible to provide access for all persons. The preferred slope of ramps is 1 in 12.

GENERAL REQUIREMENTS

§ 37.272. Minimum number of exitways.

The minimum number of exitways to be provided for each occupancy classification shall be as follows:

(1) Occupancy classifications, group A. Two exitways, reasonably remote from each other; the locations of all exitways shall be subject to the approval of the Department. No exit doorway shall be less than 32 inches in width.

(2) Occupancy classifications, B and F. Two exitways reasonably remote from each other. No exit doorway shall be less than 32 inches in width.

(3) Occupancy classifications, C-1. Two exitways reasonably remote from each other. No exit doorway in buildings used to house partially or completely disabled persons shall be less than 42 inches in width.

(4) Occupancy classifications, D-1. Exitway requirements shall be as determined by the Board.

(5) Occupancy classifications, D-2, D-3, and D-5. Two exitways reasonably remote from each other. Every basement or cellar of D-5 occupancy larger than 600 square feet in area shall have at least two means of egress, both of which shall be accessible from any portion of such basement or cellar and one of which may be located and constructed in accordance with requirements which may be set by the Department if an exit complying with all the requirements of this Chapter cannot be provided. No exit door shall be less than 32 inches wide.

(6) Occupancy classifications, D-4. Two exitways reasonably remote from each other. No exit door shall be less than 32 inches in width. Unenclosed ramps of incombustible construction may be counted as one exit if there is at least one enclosed exit stairway for a maximum travel distance of 150 feet to either an unenclosed ramp or an enclosed exit stairway. One exit stairway plus ramp or elevator shall be permitted for attendant parking garage.

(7) Occupancy classification, E. Exitway requirements shall be the same as the classification to which Group E occupancy is accessory.

(8) Occupancy classification, C-2. The following provisions shall apply: (i) Except as otherwise provided in subparagraphs (ii) and (iii) of this paragraph, two exitways reasonably remote from each other shall be required for all buildings. No exit doorway shall be less than 32 inches in width. (Figure 1)

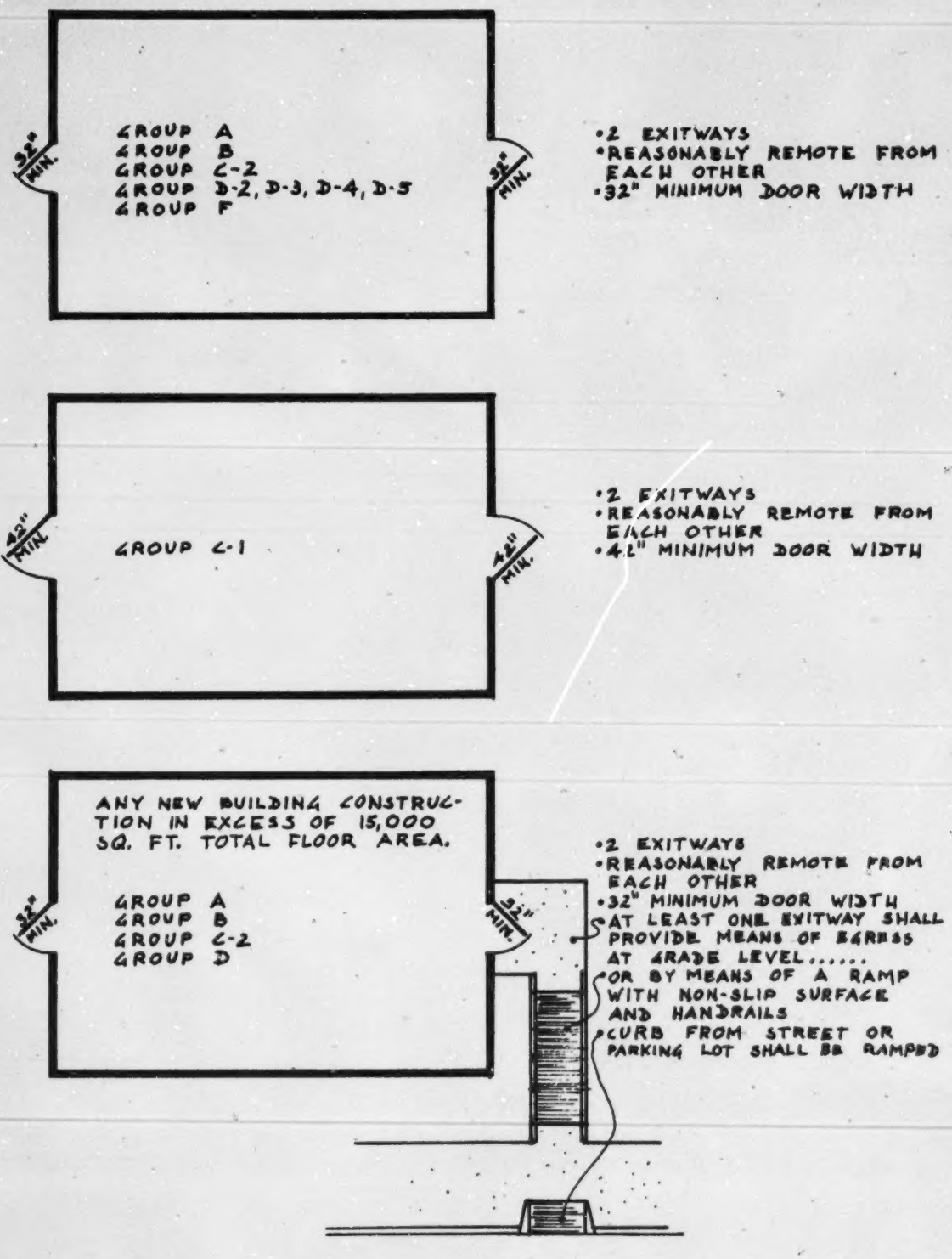


Figure 1. Occupancy Classification and Minimum Exitway Requirements

Explanation: The above represent minimum number and width of exitways. Additional means of egress are always desirable for the safe use of a facility by all persons.

(10) In all new buildings of Class A, B, C-2, and D construction in excess of 15,000 square feet total floor area, at least one means of egress shall be provided at grade level or by means of ramp inclined to the easiest practicable degree but not in excess of the maximum stipulation of § 37.286 of this Title (relating to ramps). Such ramp shall be constructed of or provided with a nonslip surface and shall be further equipped with hand rails. If there is a pavement leading into the building from the street or parking lot, the curb shall also be ramped. (Figure 1)

Explanation: This rule, along with the previous provisions concerning exitway widths, represent the sum total of requirements which provide access to the handicapped in non-Commonwealth-assisted building construction. For the physically handicapped, access to a building is not enough; the interior of the building must be usable as well, and in this sense, include such other features for the disabled in privately-built construction as usable restrooms, telephones, elevators, drinking fountains, parking areas, etc.

This provision also suggests one means of egress "inclined to the easiest practicable degree." A ramp of grade 1 in 12 or less is always preferred. A ramp built to the maximum stipulation of § 37.286 (1 in 6) would be extremely hazardous to wheelchair-users because of its sharp incline. A wheelchair may tip over backwards when such a slope is attempted.

§ 37.286. Ramps.

Ramps may be used in place of stairs in required exitways. The maximum pitch of ramps shall be 16-2/3% (two inches per foot). Ramps steeper than 10% shall have an approved nonslip surface. Ramp arrangement construction, enclosures, doorways, unit widths and vertical distance between landings shall conform to the requirements for stairs for the same occupancy. Ramps having a slope of more than 12-1/2% shall be provided with handrails as required for stairways. Basements shall be provided at top and bottom of ramps, and shall be not less than four inches in length for each degreee of slope. (Figure 2)

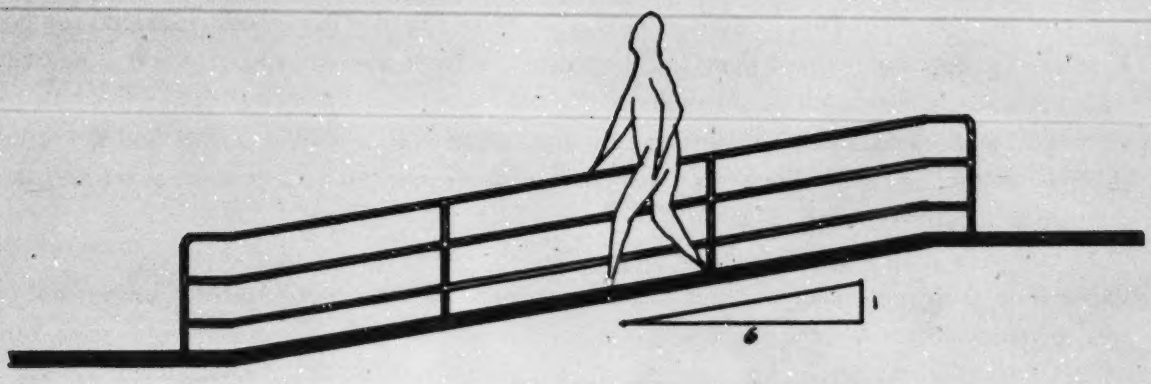
Explanation: Ramps (or level entry) must be used for one means of egress in new Groups A, B, C-2, and D buildings greater than 15,000 square feet. Again, we repeat that a ramp whose slope is steeper than 8-1/3% (1 inch per foot) is hazardous to the wheelchair-bound.

Subchapter M. RULES OF PROCEDURE FOR ENFORCEMENT OF FIRE AND PANIC LAW

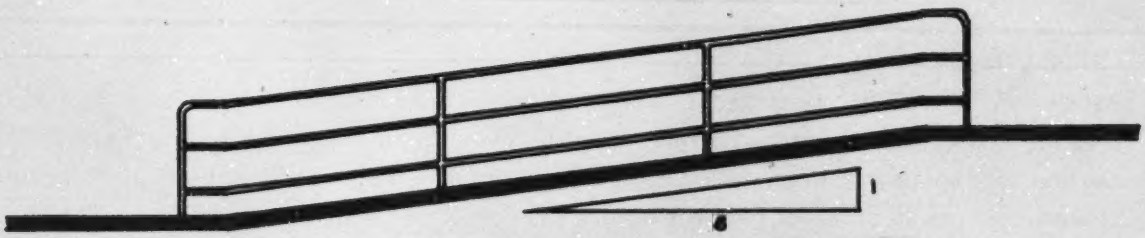
§ 37.701. Applicability of general rules.

Pursuant to 1 Pa. Code § 31.1 (relating to scope of part), the General Rules of Administrative Practice and Procedure, 1 Pa. Code Part II, are applicable to all proceedings for the enforcement of the Fire and Panic Law (35 P.S. § 1221 et seq.) except as provided in this Subchapter.

Explanation: Since the Fire and Panic Law also covers Chapter 47, Subchapter D, "Facilities for the Handicapped," the rules of enforcement contained in this Subchapter apply to Chapter 47, Subchapter D, as well.



MAXIMUM ALLOWABLE SLOPE FOR EXITWAY RAMPS IS 16 2/3 %, (1 IN 6).



RAMPS WITH SLOPE OF 12 1/2 %, (1 IN 8), OR STEEPER MUST HAVE....
- APPROVED NONSLIP SURFACE
- HANDRAILS

* NOTE: RAMPS SHOWN ON THIS PAGE ONLY ILLUSTRATE EXIT REQUIREMENTS SPECIFIED IN THE FIRE AND PANIC PROVISIONS OF THE CODE AND DO NOT MEET REQUIREMENTS OF ACCESSIBILITY FOR THE PHYSICALLY HANDICAPPED AS SET FORTH UNDER SUBCHAPTER D, CHAPTER 47 OF THE PENNSYLVANIA CODE.

RAMPS WITH SLOPE OF 10%, (1 IN 10), OR STEEPER MUST HAVE:...
- APPROVED NONSLIP SURFACE

Figure 2. Exitway Ramp Requirements

§ 37.702. Service of orders, notices, and duty of owner to post address.

Service of orders, notices and other documents shall be effected in the manner provided by 1 Pa. Code § 33.31 of this Title (relating to service by the agency). For purposes of such service, every owner of a building covered by the provisions of the Fire and Panic Law (35 P.S. § 1221 et seq.) shall post in the entrance way or other conspicuous and accessible location his or her name or the name of his or her agent designated to accept service together with the address at which such service shall be made.

§ 37.703. Notice of violation and order to correct.

If an inspection of a building covered by the act has been conducted by the Department and violations of the act or regulations promulgated under the act have been found, the following procedures shall be observed:

(1) A written notice of violations shall be served upon the owner describing the violations and identifying those violations, if any, which, in the opinion of the Department, constitute an imminent threat of harm to the occupants of the building.

(2) An order requiring correction of the violations within such reasonable period as shall be determined by the Department shall be served simultaneously with the notice required in paragraph (1) of this section.

§ 37.704. Finding of compliance or noncompliance.

At the end of the period provided in the order under § 37.703(b) of this Title (relating to notice of violation and order to correct), the Department shall determine whether compliance has been effected. If not, the owner shall be served with an order to show cause why the building or structure should not be vacated or placed out of service in accordance with section 12 of the act (35 P.S. § 1232). Such order shall be considered an order to show cause under 1 Pa. Code § 35.14 (relating to orders to show cause), shall comply with the requirements imposed thereunder, and require an answer to be filed within 15 days of service.

§ 37.705. Answer.

An answer to the order to show cause shall be filed with the Secretary of the Industrial Board in accordance with 1 Pa. Code § 35.37 (relating to answers to order to show cause) and may include a request for a variance. If a request for a variance has already been filed with the Industrial Board and is still pending, consideration of such request shall be merged with the answer and considered simultaneously with the answer. If a request for a variance has already been filed and is still pending and no answer is filed, the request for a variance shall be deemed the answer.

Explanation: While this rule is an integral part of every building code, alternative design solutions almost always negate the need for a variance from compliance with rules for the handicapped. Alternative design solutions must be exhausted before the Department considers a request for variance pertaining to facilities for the disabled.

§ 37.706. Default.

In accordance with 1 Pa. Code s 35.37 (relating to answers to orders to show cause), mere general denials or failure to file an answer shall be deemed a default and the Department may immediately proceed in accordance with section 12 of the act (35 P.S. § 1232).

§ 37.707. Danger of imminent harm.

(a) If the Department certifies to the Industrial Board that a danger of imminent harm exists to the occupants of a building which has been cited in accordance with these regulations, the Board or its designee shall conduct an expedited hearing within ten days of the filing of an answer under § 37.705 of this Title (relating to answer) in accordance with the procedures provided under 1 Pa. Code Chapter 35, Subchapter B (relating to hearings and conferences).

(b) The decision of the Industrial Board shall be rendered within ten days of such hearing.

Explanation: We submit to the Industrial Board that an absence of facilities for the disabled in a building constitutes a "danger of imminent harm" to physically handicapped users or occupants of a building.

§ 37.708. Final order of the Board.

(a) The decision of the Industrial Board shall be served upon the owner of the building or by his designated agent by certified mail or by personal service.

(b) After service, the Department shall immediately begin implementation of the Order of the Board.

§37.709. Enforcement of final order.

If the owner fails or refuses to comply with a final order of the Board or Department, the Department will seek enforcement of that Order in the Commonwealth Court or any other court of competent jurisdiction.

§ 37.710. Appeal from final order.

(a) Appeals from the Final Order of the Board may be taken by the owner to the Commonwealth Court in accordance with the provisions of the Appellate Court Jurisdiction Act (17 P.S. § 211.508 et seq.) and the Administrative Agency Law (71 P.S. § 1710.1 et seq.)

(b) Unless otherwise directed by the Commonwealth Court, said appeal shall not act as a supersedeas to the enforcement of the Order of the Board.

Explanation: These final two enforcement rules, imposing as they do the threat of court action and costs, exist as a strong deterrent to non-compliance. Combined with the other provisions in this Subchapter, the Building Regulations of the Commonwealth possess an enforcement procedure with significant clout.

CHAPTER 47. MISCELLANEOUS PROVISIONS

Subchapter D. FACILITIES FOR HANDICAPPED

GENERAL PROVISIONS

§ 47.111. Scope.

(a) This Subchapter pertains to all buildings of assembly, educational institutions and office buildings which are constructed in whole or in part by the use of Commonwealth funds, or the funds of any instrumentality of the Commonwealth or which are leased by the Commonwealth or an instrumentality thereof by reason of a lease executed after December 31, 1974 and shall also apply to department stores,

theaters, retail stores and sports arenas constructed after the effective date of this amending act. All Commonwealth financed or leased buildings and facilities constructed or leased in this Commonwealth shall conform to each of the standards and specifications prescribed herein. All department stores, theaters, retail stores and sports arenas for which contracts for the planning and/or design have been awarded prior to October 2, 1974 shall be exempt.

(b) If the existing or designed dimensions are within 5.0% of the maximum or minimum specified, they shall be deemed to comply with this Subchapter.

Explanation: This entire Subchapter first became law in 1965; the very progressive amendments concerning the compliance of Commonwealth-leased buildings and the accessibility of department stores, theaters, retail stores, and sports arenas became effective in 1974. Essentially, any assembly, education or office building constructed or financed by the Commonwealth or its instrumentality must comply; any such building leased after December 1, 1974 must comply, which could mean that a leased building must be renovated to achieve compliance; finally, and of great importance, all department stores, theaters, retail stores and sports arenas—whether constructed, financed, or leased by the Commonwealth or not—erected after 1974 must also be in compliance with the rules which follow. (SEE 1976 LAW on pg. PA-31.)

§ 47.112. Penalty.

Any person who violates any of the provisions of this Subchapter or any regulations of the Department or who interferes with the Department or its duly authorized representative in the enforcement of such provisions or regulations shall be penalized under the provisions of act of September 1, 1965 (No. 235) (71 P.S. § 1455.1 et seq.), and act of April 27, 1927 (No. 299), as amended (35 P.S. § 1221 et seq.).

Explanation: This provision ties these rules with the enforcement requirements of Chapter 37, Subchapter M.

GROUNDS, BUILDINGS, AND FACILITIES

§ 47.121. Walks.

There shall be at least one walk serving each of the buildings as set forth in § 47.111 of this Title (relating to scope) conforming to the following specifications:

(1) Be at least 48 inches wide with a slope no portion of which is steeper than 5.0%.

(2) Be of a continuing common surface uninterrupted by steps or abrupt changes in grade.

(3) Blend to a common level whenever the walk crosses other walks, driveways, or parking lots.

(4) Have a level platform at the building entrance which it serves and such platform shall be at least five feet square if a door swings out on to the platform or toward the walk; the platform shall extend at least one foot beyond each side of the doorway.

(5) Have a level platform at least three feet deep and five feet wide if the door does not swing on to the platform or toward the walk; the platform shall extend at least one foot beyond each side of the doorway. (Figures 3 and 4)

Explanation: A walkway width of 60 inches is preferred to allow two individuals in wheelchairs to pass each other. A walk with a slope between 5.0% and 8.33% is classified a ramp (see § 47.123). A bump or projection greater than 5/8 of an inch in height along a walkway constitutes an "abrupt change in grade" and would prohibit access to the wheelchair-bound handicapped. When considering walkway construction,

proper site development is crucial: the use of winding walkways, terracing, etc., can provide both access and enhance the aesthetics of building exteriors; and, the material used in a walkway is equally important: poured concrete or asphalt concrete is preferred and the surface may be scored or broom textured to avoid slippage. It should also be emphasized that buildings set forth in § 47.111 must have one walkway (not ramp) at least. It is recommended that this one walkway for the handicapped adjoin a primary or main building entrance.

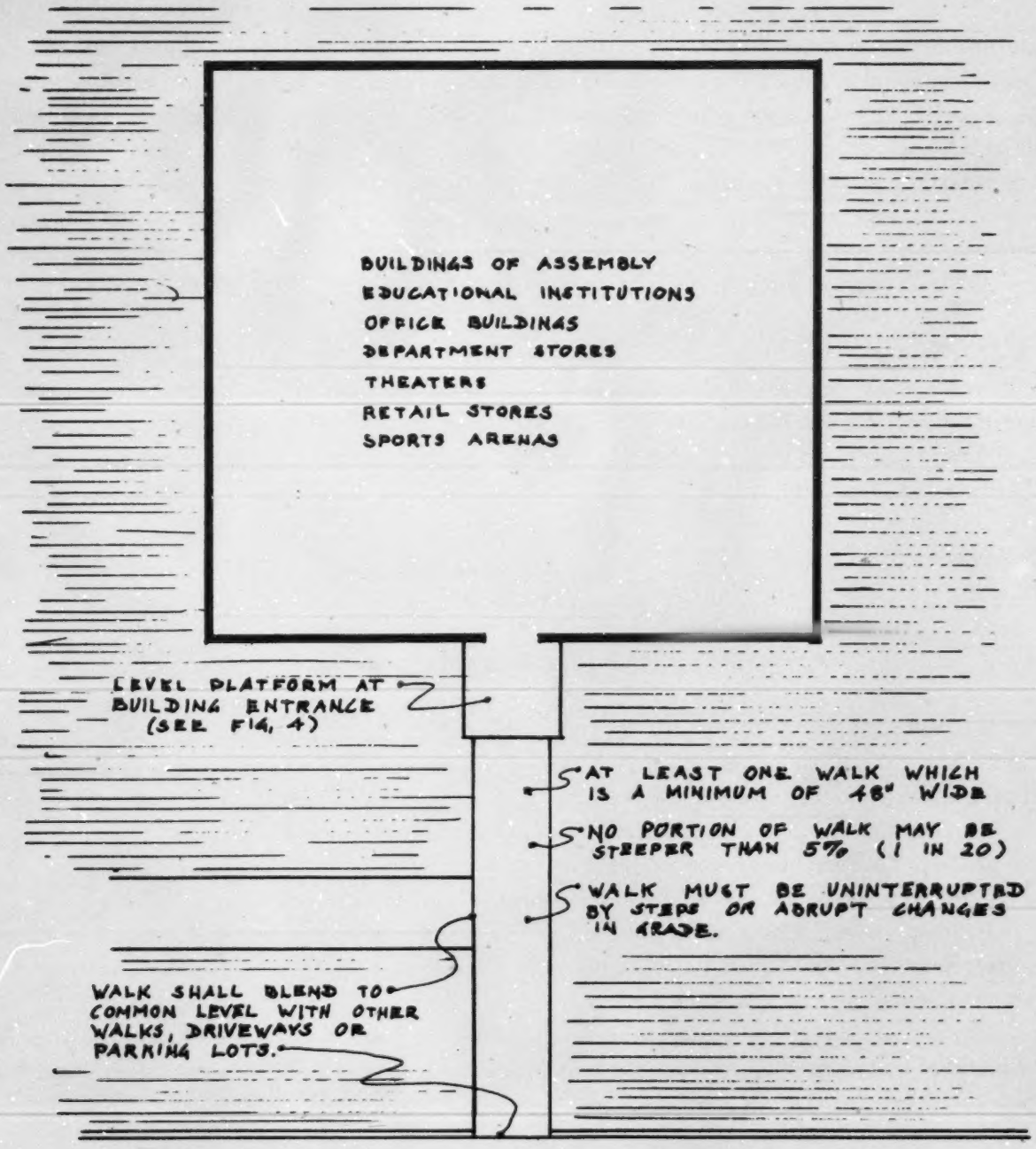

BUILDINGS OF ASSEMBLY
EDUCATIONAL INSTITUTIONS
OFFICE BUILDINGS
DEPARTMENT STORES
THEATERS
RETAIL STORES
SPORTS ARENAS
LEVEL PLATFORM AT BUILDING ENTRANCE (SEE FIG. 4)
AT LEAST ONE WALK WHICH IS A MINIMUM OF 48" WIDE
NO PORTION OF WALK MAY BE STEEPER THAN 5% (1 IN 20)
WALK MUST BE UNINTERRUPTED BY STEPS OR ABRUPT CHANGES IN GRADE.
WALK SHALL BLEND TO COMMON LEVEL WITH OTHER WALKS, DRIVEWAYS OR PARKING LOTS.

Figure 3. Building Types and Minimum Walk Requirements

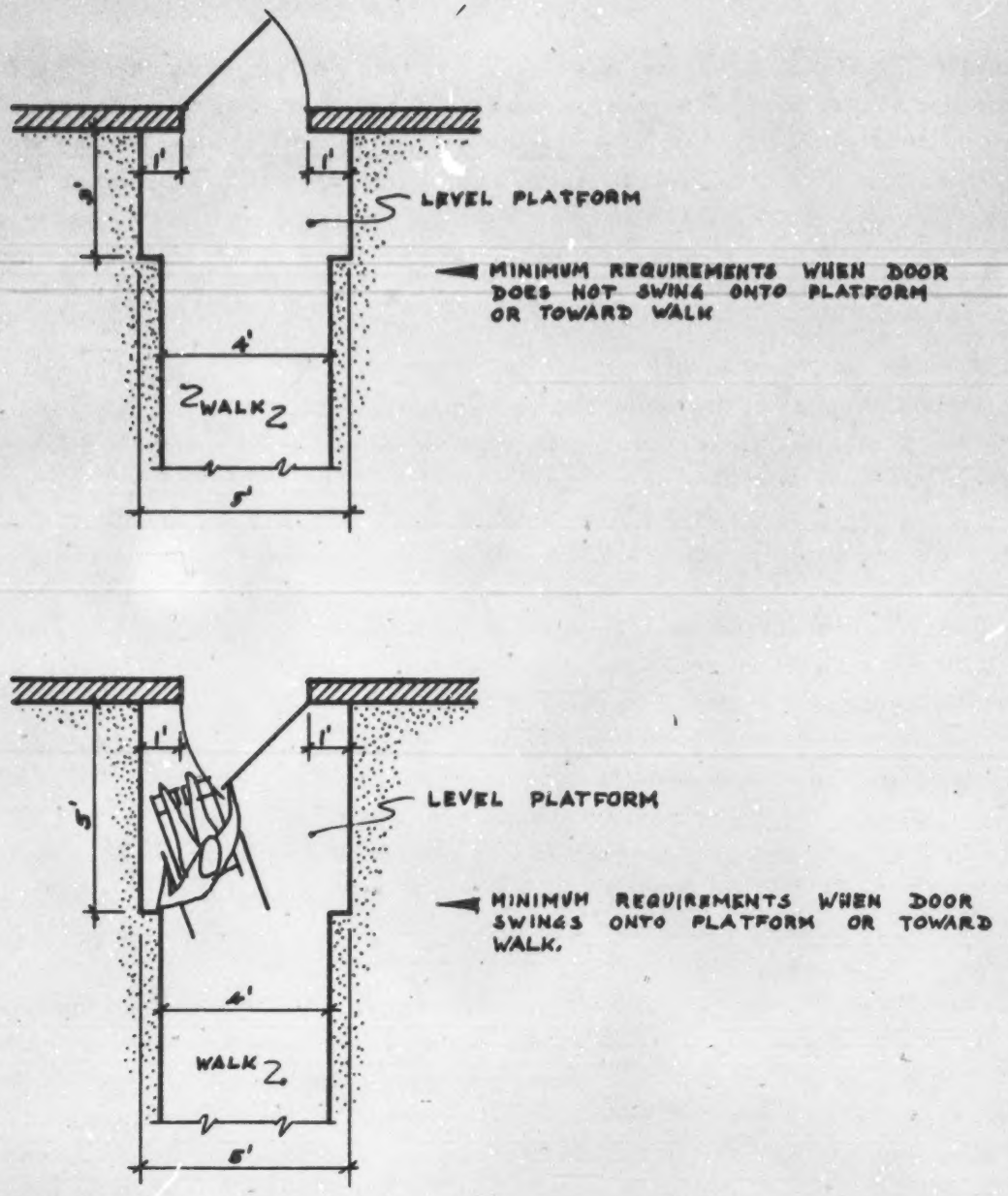


Figure 4. Minimum Entrance Platform Requirements

§ 47.122. Parking Areas.

At least one parking area for handicapped persons shall be made accessible to each building either by placing the parking level at the grade level of the building or by providing ramps to bypass curbs or steps between the parking area and the building. Such ramps, when provided, shall be in accordance with this Subchapter. (Figure 5)

Explanation: Specifically, the distance of a parking area from a building is significant: 200 feet of travel distance should be the absolute maximum. Also worthy of consideration are the width and idenfication of parking spaces for the handicapped. Preferred width is 12 feet, 6 inches (11 feet, 6 inches where a parking space adjoins a walk or ramp). An above-grade identification sign which incorporates the International Symbol of Access in its design should accompany each parking space for the handicapped. In large parking areas, at least 4% of the total number should be set aside for the disabled. Parking for the disabled should be well lighted and situated so that the handicapped need not wheel or walk behind other parked vehicles.

§ 47.123. Ramps.

When ramps are required they shall conform to the following specifications:

(1) Each ramp shall have a slope no greater than one foot rise in 12 feet of run or 8.33% grade or four degrees and 50 minutes deflection.

(2) Each ramp shall have a handrail on at least one side or preferably on both sides. If the width of the ramp exceeds 84 inches, there shall be an intermediate rail in the ramp. The top of handrails shall be 32 inches above the surface of the ramp and extend one foot beyond the top and botton of the ramp.

(3) Each ramp shall be at least 32 inches wide (inside clear measurements) and have a nonslip surface.

(4) If a door swings out onto the platform or toward the ramp, such ramp shall be at least five feet square. This platform shall be clear of the door frame.

(5) If the door does not swing on to the platform or toward the ramp, this platform shall be at least three feet deep and five feet wide, and clear of the door frame.

(6) The bottom of the ramp shall have at least six feet level run.

(7) If the length of the ramp exceeds 30 feet, level platforms shall be provided at 30 foot intervals, and at turns in the ramp. These platforms shall be at least 32 inches wide (in all cases the width of the ramp) by five feet long. (Figures 6, 7 and 8)

Explanation: Ramp handrails are frequently overlooked but are important since they prevent wheelchair-users from rolling off the ramp side and are also helpful to the elderly and ambulatory disabled as they ascend an inclined surface. Handrail extensions help to ease the transition from inclined to horizontal plane and vice versa. A ramp width of 48 inches is always preferred. The dimensions of ramp platforms at door openings are also significant so that the wheelchair-user may approach a door without excessive back and forth maneuvering and without fear of tumbling from the wheelchair while reaching for the door handle. Level platforms at 30-foot intervals on straight-run ramps are necessary for the purpose of rest. Those at turns in the ramp are equally important since it is difficult for a wheelchair-user to move on an inclined surface and to turn a wheelchair at the same time.

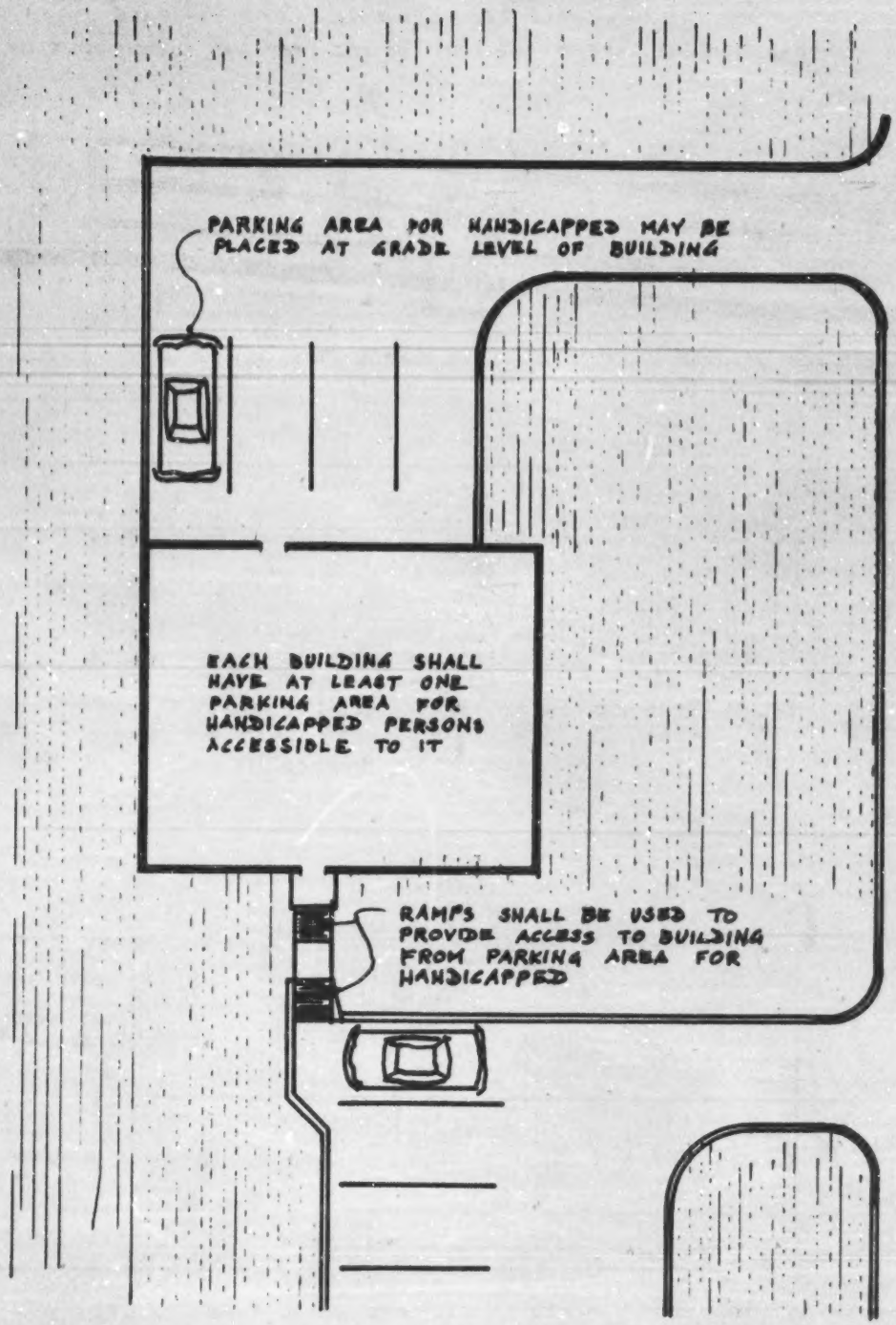
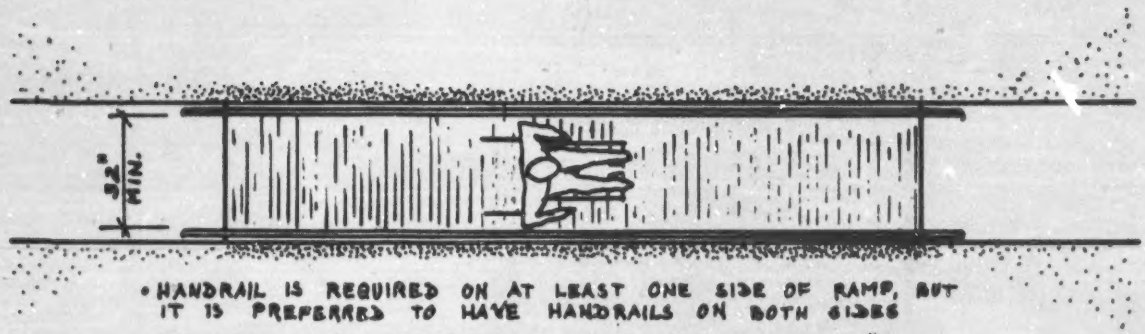

PARKING AREA FOR HANDICAPPED MAY BE PLACED AT GRADE LEVEL OF BUILDING
EACH BUILDING SHALL HAVE AT LEAST ONE PARKING AREA FOR HANDICAPPED PERSONS ACCESSIBLE TO IT
RAMPS SHALL BE USED TO PROVIDE ACCESS TO BUILDING FROM PARKING AREA FOR HANDICAPPED

Figure 5. Parking for Handicapped

• TOP OF HANDRAIL SHALL BE 32" ABOVE RAMP SURFACE
• HANDRAILS SHALL EXTEND ONE FOOT BEYOND TOP AND BOTTOM OF RAMP
1'
1'
32"
1
12
• MAXIMUM ALLOWABLE RAMP SLOPE IS 8.33% (1 IN 12)


32" MIN.
• HANDRAIL IS REQUIRED ON AT LEAST ONE SIDE OF RAMP, BUT IT IS PREFERRED TO HAVE HANDRAILS ON BOTH SIDES
• MINIMUM CLEAR DISTANCE BETWEEN RAILINGS IS 32"

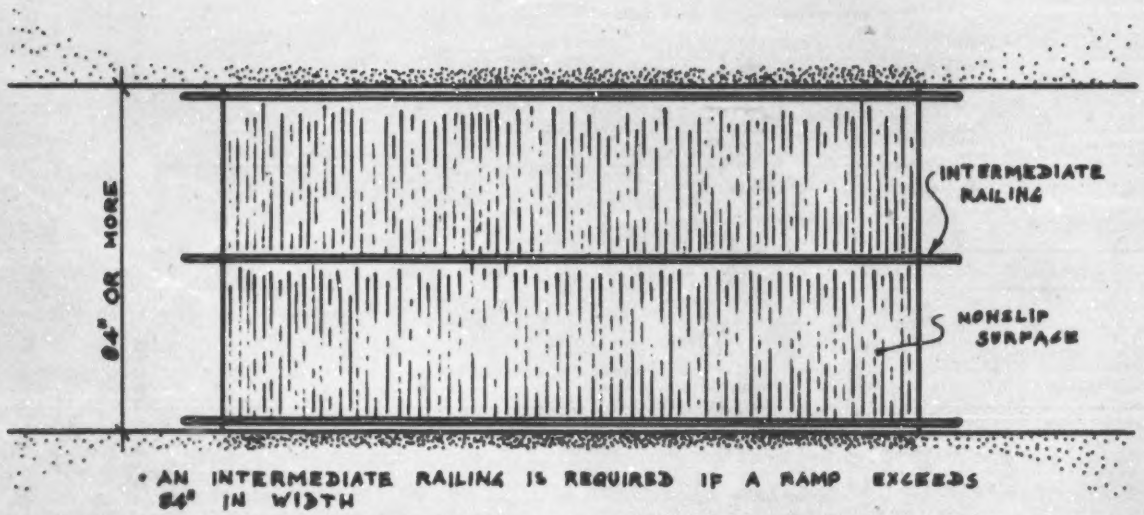
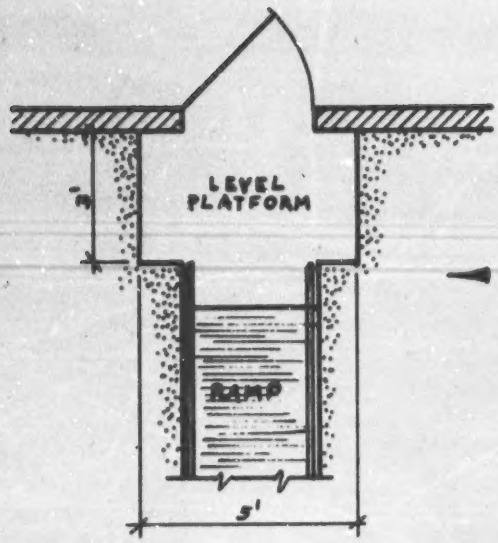
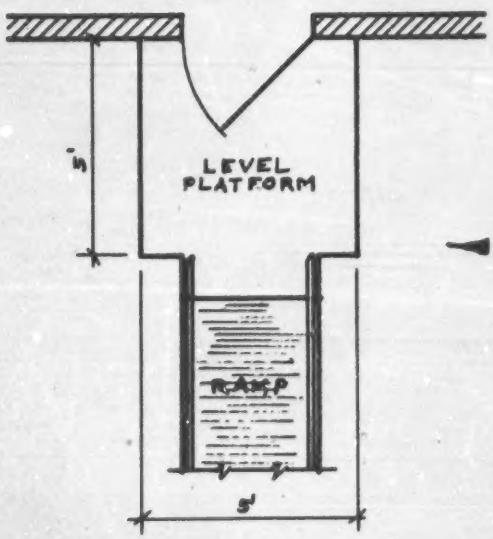

84" OR MORE
INTERMEDIATE RAILING
NONSLIP SURFACE
• AN INTERMEDIATE RAILING IS REQUIRED IF A RAMP EXCEEDS 84" IN WIDTH
• ALL RAMPS SHALL HAVE A NONSLIP SURFACE

Figure 6. Ramp Specifications – Slope, Handrails, Width



MINIMUM PLATFORM DIMENSIONS WHEN DOOR DOES NOT SWING ONTO PLATFORM OR TOWARD RAMP.



MINIMUM PLATFORM DIMENSIONS WHEN DOOR SWINGS ONTO PLATFORM OR TOWARD RAMP.

Figure 7. Ramp Specifications – Platform Size and Door Swing

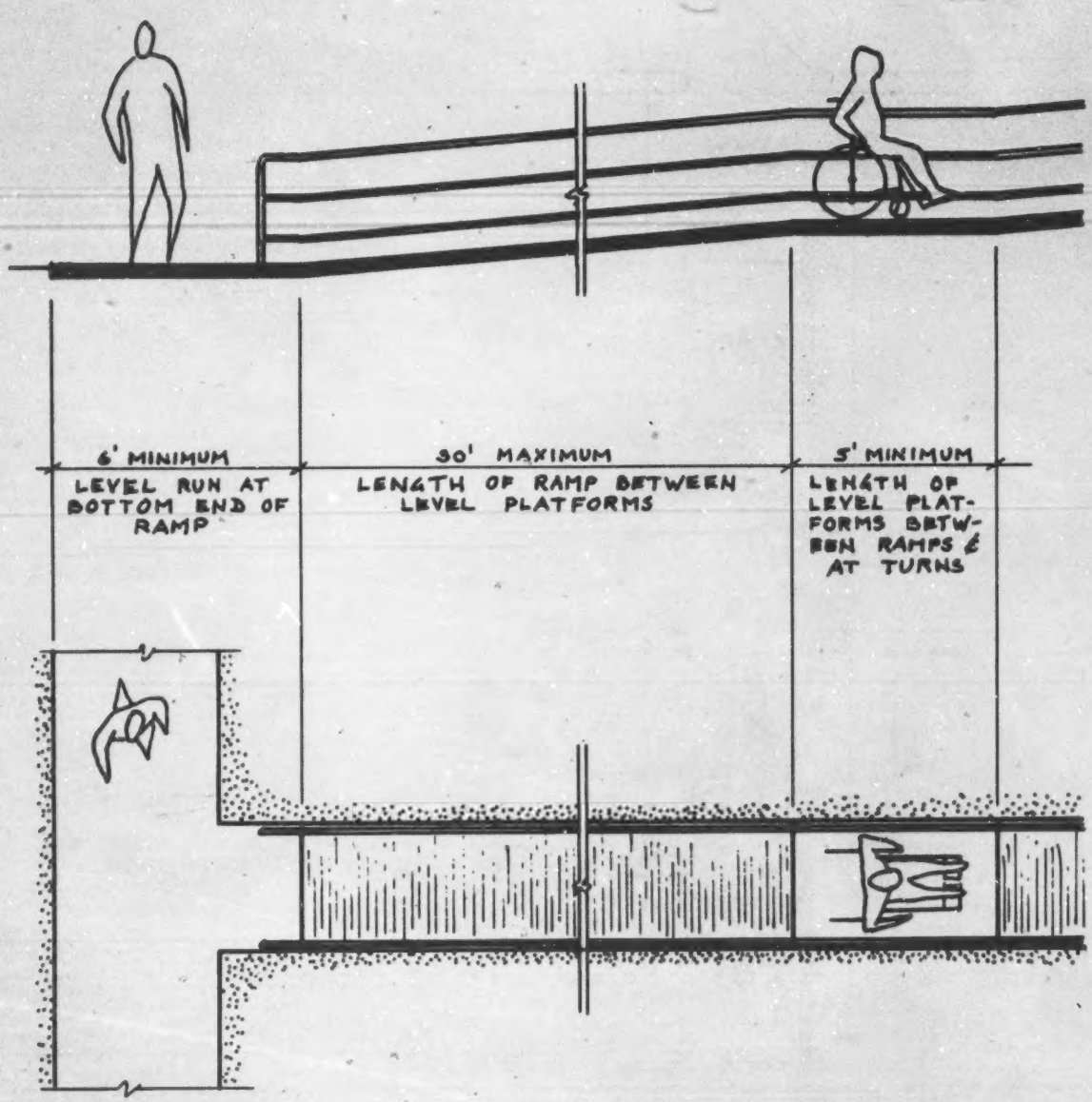

6' MINIMUM
LEVEL RUN AT BOTTOM END OF RAMP
30' MAXIMUM
LENGTH OF RAMP BETWEEN LEVEL PLATFORMS
5' MINIMUM
LENGTH OF LEVEL PLATFORMS BETWEEN RAMPS & AT TURNS

Figure 8. Ramp Specifications – Ramp and Platform Length

§ 47.124. Entrances.

(a) Each building shall have at least one entrance accessible to individuals in wheelchairs. When this building is equipped with elevators, this entrance shall provide access to such elevator either on a level plane or by ramp.

(b) Doors which serve as closures for the entrance shall have a clear opening of not less than 32 inches, be double acting and operable by a single effort. The floor on the inside and outside of each such doorway shall be level for a distance of five feet on each side of the doorway and shall extend one foot beyond each side of the door. Sharp inclines and abrupt changes in level shall be avoided at door sills. If practical, thresholds shall be flush with the floor or otherwise offer little resistance to the operation of a wheelchair. (Figures 9 and 10)

Explanation: Again, we emphasize that the one entrance for wheelchair access should be a main entrance. It is also desirable that any building greater than two stories in height be equipped with elevators. The 32-inch entrance door width is a minimum requirement; wider doors are always preferred for ease of access. Where door thresholds are not flush, it is suggested that they be beveled and not exceed a height of 3/4 of an inch.

§ 47.125. Stairs.

Steps in stairs shall be designed whenever practical to lack nosing. This requirement is in addition to the requirements of Chapter 37 of this Title (relating to protection from fire and panic) that no treads may be less than ten inches. It is recommended that steps, if possible and in conformation with existing step formulas, have risers that do not exceed seven inches. Stairs shall have handrails 32 inches high measured from the tread at the face of the riser, and at least one handrail which extends at least 18 inches beyond the top step and beyond the bottom step. (Figure 11)

Explanation: In essence, the seven-inch riser height recommended here is a necessity for those who ambulate with crutches and braces.

§ 47.126. Floors.

Floors, if practical, shall have a nonslip surface. Floors on the same story shall be of a common level throughout or be connected by a ramp in accordance with the provisions of this Subchapter.

Explanation: Textured surface floors are ideal for all. The physically handicapped should not have to go up or down a step at adjacent room entrances such as public toilet rooms, classrooms, dining rooms, etc.

§ 47.127. Restrooms and plumbing fixtures.

(a) On each floor of all buildings there shall be at least one toilet room for each sex equipped in accordance with the following specifications:

(1) Toilet rooms shall be accessible to and usable by the physically handicapped and shall have space to allow traffic of individuals in wheelchairs.

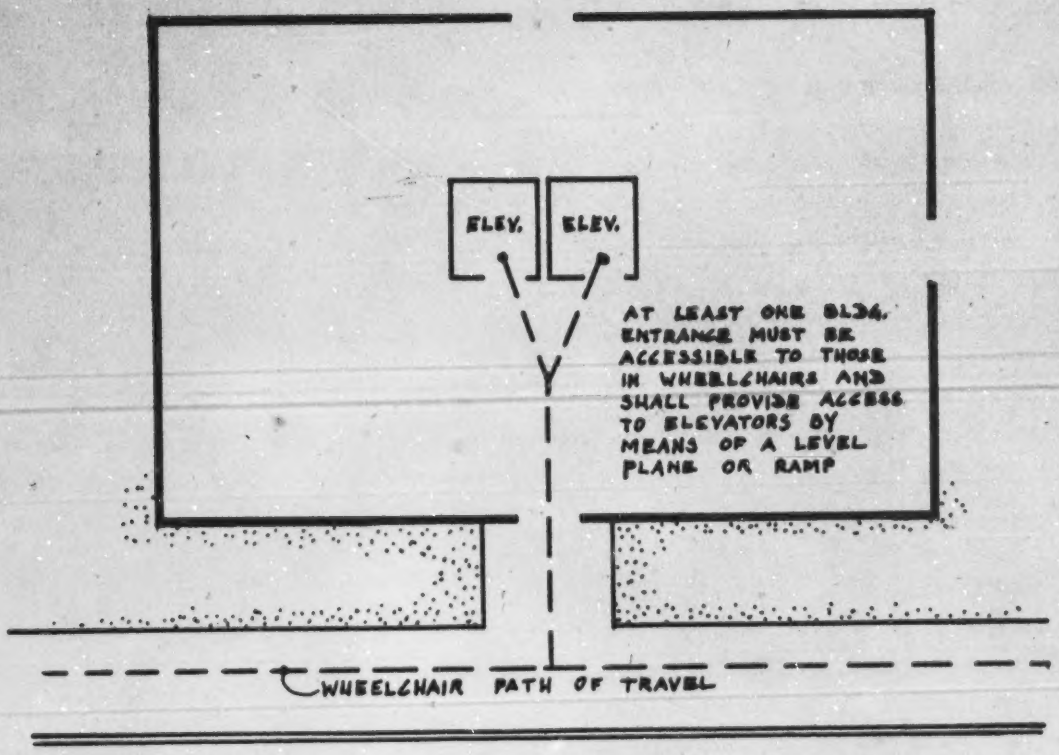

ELEV.
ELEV.
AT LEAST ONE ENTRANCE MUST BE ACCESSIBLE TO THOSE IN WHEELCHAIRS AND SHALL PROVIDE ACCESS TO ELEVATORS BY MEANS OF A LEVEL PLANE OR RAMP
WHEELCHAIR PATH OF TRAVEL

Figure 9. Wheelchair Access to Buildings

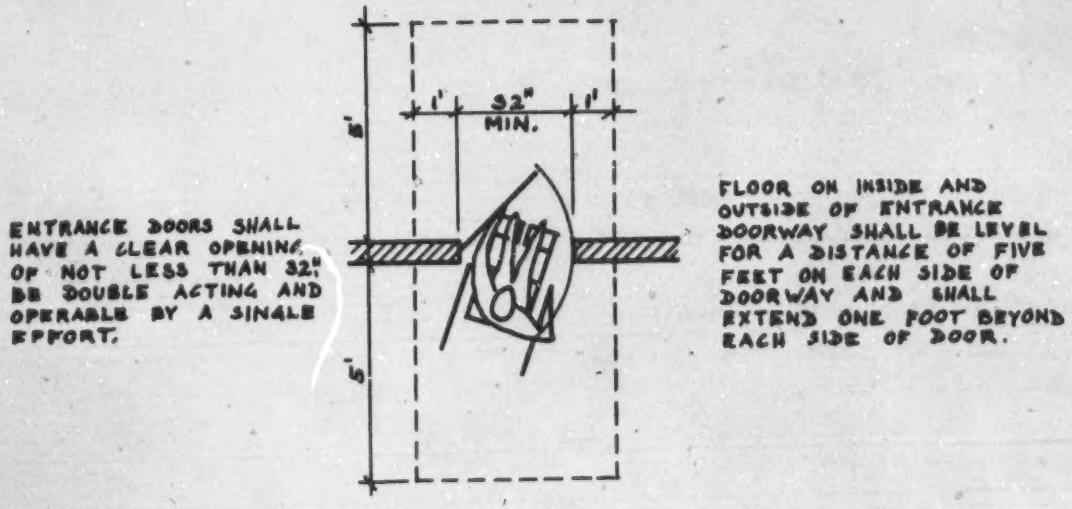
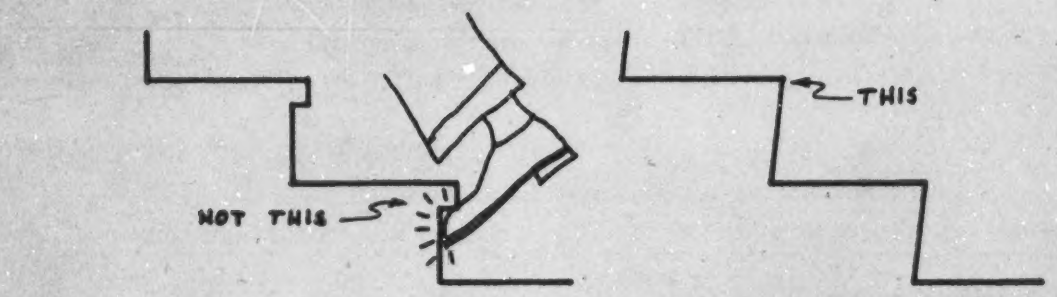

1'
32" MIN.
1'
ENTRANCE DOORS SHALL HAVE A CLEAR OPENING OF NOT LESS THAN 32" BE DOUBLE ACTING AND OPERABLE BY A SINGLE EFFORT.
FLOOR ON INSIDE AND OUTSIDE OF ENTRANCE DOORWAY SHALL BE LEVEL FOR A DISTANCE OF FIVE FEET ON EACH SIDE OF DOORWAY AND SHALL EXTEND ONE FOOT BEYOND EACH SIDE OF DOOR.

Figure 10. Entrance Doorways



• STEPS SHALL BE DESIGNED WHENEVER PRACTICAL TO ELIMINATE NOSING

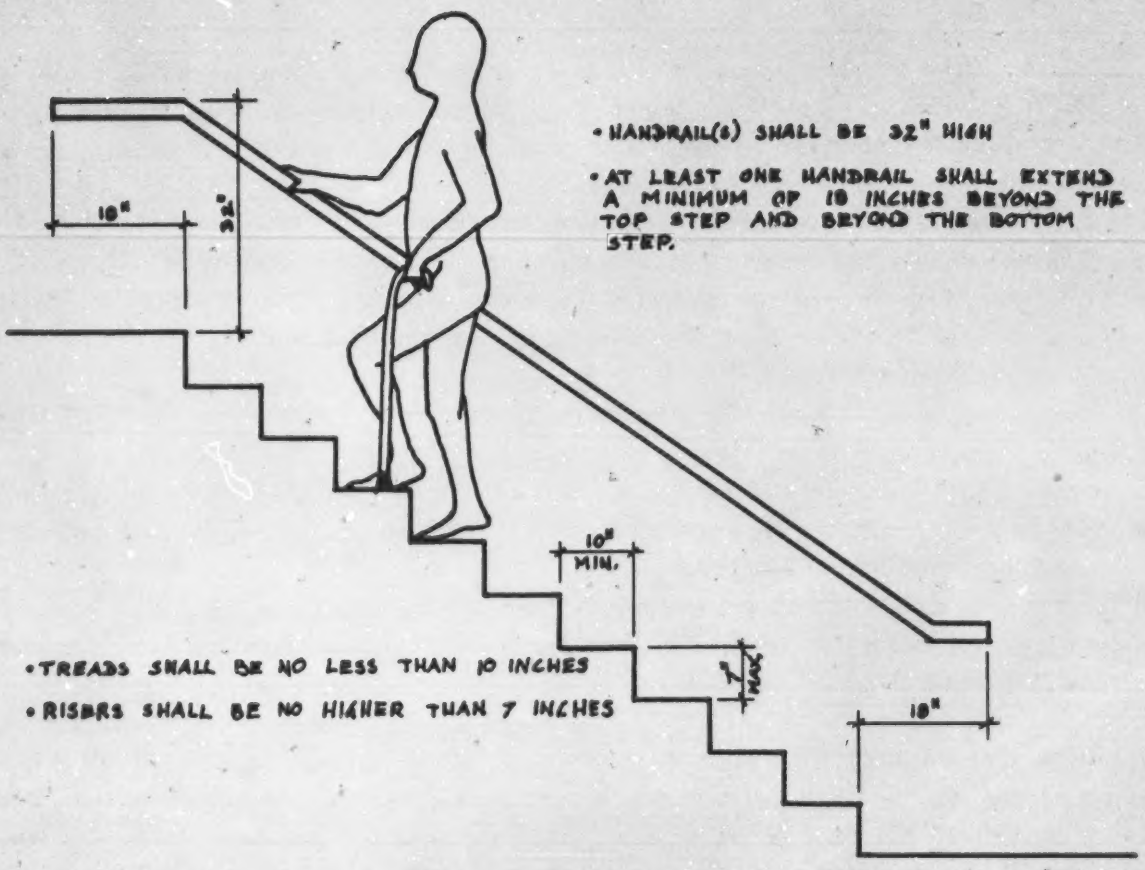

• HANDRAIL(S) SHALL BE 32" HIGH
• AT LEAST ONE HANDRAIL SHALL EXTEND A MINIMUM OF 18 INCHES BEYOND THE TOP STEP AND BEYOND THE BOTTOM STEP.
18"
10" MIN.
7" MAX.
18"
• TREADS SHALL BE NO LESS THAN 10 INCHES
• RISERS SHALL BE NO HIGHER THAN 7 INCHES

Figure 11. Stairs

(2) Toilet rooms shall have at least one toilet stall that meets the following requirements:

(i) Three feet in width.

(ii) At least four feet eight inches, but preferably five feet, in depth.

(iii) A door, if doors are used, 32 inches in width that swings out.

(iv) Has handrails or grab bars which are an integral part of the toilet seat, or are mounted on the wall, at such a height and in such a position as the Secretary of Labor and Industry shall, by regulation, determine.

(v) A water closet with the seat 20 inches from the floor.

(3) Toilet stalls shall be furnished for each sex in accordance with the following table:

Number of Persons	Number of Stalls
1–15	1
16–30	2
31–50	3

(4) Toilet stalls shall be provided for each sex in the ratio of at least one for each 25 or less persons.

(5) Toilet rooms shall have either lavatories with narrow aprons, which, when mounted at standard height, are usable by individuals in wheelchairs, or lavatories mounted higher, when particular designs demand, so that they are usable by individuals in wheelchairs.

(6) Mirrors and shelves shall be provided above lavatories at a height as low as practical but no higher than 40 inches above the floor, measured from the top of the shelf and the bottom of the mirror.

(7) Toilet rooms for men shall have either an appropriate number of wall-mounted urinals with the opening of the basin 19 inches from the floor or an appropriate number of floor-mounted urinals that are on a level with the main floor of the toilet room.

(8) Toilet rooms shall have an appropriate number of towel racks, towel dispensers, and other dispensers and disposal units mounted no higher than 40 inches from the floor.

(9) An appropriate number of water fountains or other water-dispensing means shall be accessible to and usable by the physically disabled. Water fountains or coolers shall have up-front spouts and controls, and be either hand-operated or hand-and-foot operated.

(b) Toilet rooms may be located one floor above or below the regular place of occupancy of the person or persons for whose use they are provided in those buildings if there are a sufficient number of passenger elevators. (Figures 12–15)

Explanation: The amount of space necessary in a public toilet room to allow traffic by individuals in wheelchairs is a minimum 5 feet by 5 feet clear floor area adjacent to facilities intended for their use. Doors on toilet stalls are preferred for individual privacy. If doors are used, the stall depth should definitely be a minimum of 5 feet to provide maneuverability. Lavatories with shallow basins mounted 31 inches from the floor, measured from the top of the lavatory, are preferred. Lavatories should also incorporate wristblade-type levers and insulated drain pipes. Self-closing faucet levers should be avoided. Recessed water fountains should also be avoided; water fountain jets should be 31 to 33 inches from the floor. An appropriate number of water fountains would be at least one on each floor of a building.

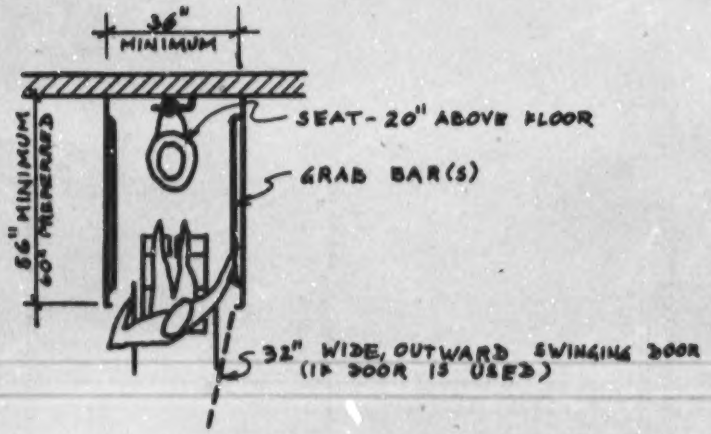


Figure 12. Toilet Rooms – Stall Requirements

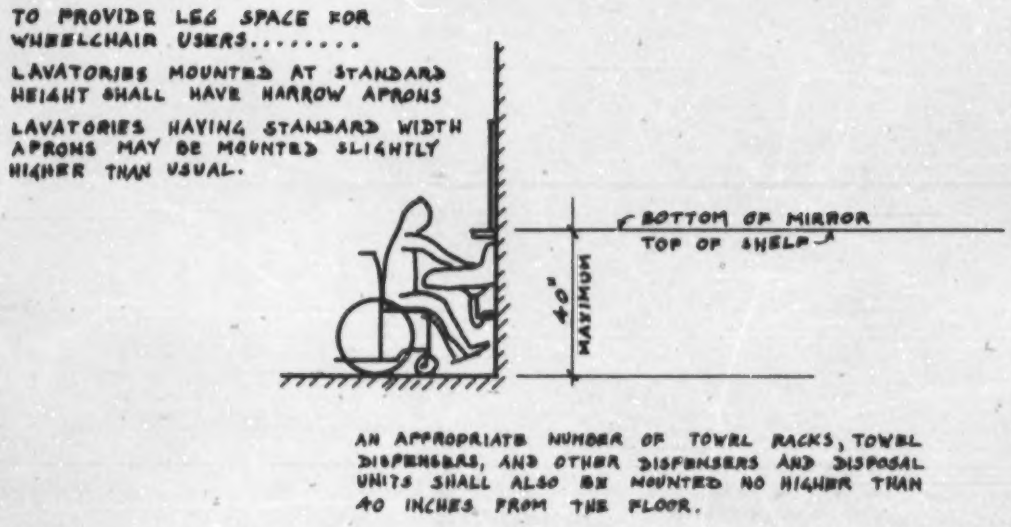

TO PROVIDE LEG SPACE FOR
WHEELCHAIR USERS.....
LAVATORIES MOUNTED AT STANDARD
HEIGHT SHALL HAVE NARROW APRONS
LAVATORIES HAVING STANDARD WIDTH
APRONS MAY BE MOUNTED SLIGHTLY
HIGHER THAN USUAL.
BOTTOM OF MIRROR
TOP OF SHELF
40"
MAXIMUM
AN APPROPRIATE NUMBER OF TOWEL RACKS, TOWEL
DISPENSERS, AND OTHER DISPENSERS AND DISPOSAL
UNITS SHALL ALSO BE MOUNTED NO HIGHER THAN
40 INCHES FROM THE FLOOR.

Figure 13. Toilet Rooms – Lavatories, Mirror and Shelf Hight Requirement

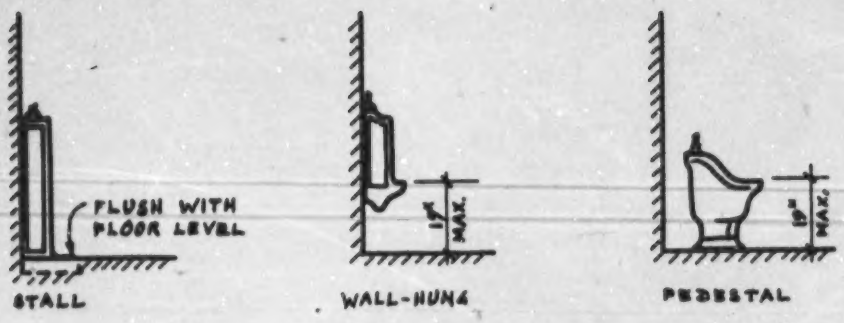


Figure 14. Urinal Height

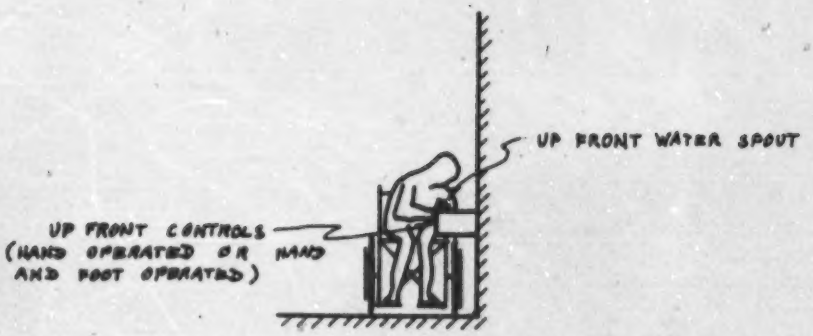


Figure 15. Water Fountains

§ 47.128. Elevators.

When elevators are provided at least one designated elevator shall be accessible to and usable by the physically disabled at all levels normally used by the general public. Elevators shall be self-leveling. Doors shall be slow-closing and shall not close if anything is in the opening, the sensing for which shall be done without touching the intervening object. However, in the event of failure of the sensing device a mechanical safety edge may be employed as an additional safety feature. When photoelectric eyes are installed, which shall be a minimum of two in number, they shall be located not less than six inches, nor more than 36 inches, above the car threshold. Elevators shall be designed to allow traffic by wheelchairs. (Figure 16)

Explanation: The ideal interior elevator area to allow traffic by individuals in wheelchairs is 5 feet by 5 feet. There must also be sufficient unobstructed area to allow entry to and egress from the elevator car. Elevator doors should be a minimum 32 inches in width. The situation of floor and emergency controls is crucial: the top of the control panel should be no higher than 40 inches from the floor. Elevator cars should have handrails mounted on at least two sides. Certain requirements for the visually handicapped should also be included: raised letters on controls and braille plates for floor designation insure safe movement by the visually handicapped.

§ 47.129. Controls.

Switches and controls for light, heat, ventilation, windows, draperies, elevators, and all similar controls of frequent or essential use, shall be placed within the reach of individuals in wheelchairs, and in no occasion at a level of more than 40 inches above the floor. (Figure 17)

Explanation: The situation of electrical outlets in rooms designated for use by the handicapped is also important: if such outlets are mounted 24 inches from the floor, they will be easier to reach by all.

§ 47.130. Phone booths.

If phone booths are provided in the buildings at least one phone booth shall have a door wide enough to admit a wheelchair and a seat higher than normal.

Explanation: Persons permanently confined to a wheelchair would probably be unable to use such a phone booth. A wall-mounted cabinet type of public telephone is preferred, with a coin slot no higher than 54 inches and sufficient depth underneath the cabinet to allow use by those in wheelchairs.

§ 47.131. Hazards.

(a) Every effort shall be exercised to obviate all hazards to individuals with physical disabilities. Lighting in doorways, toilets, and areas of similar importance shall be adequate and nonglare.

(b) If practical, electronically-operated doors shall be used in public corridors. Such doors shall be of a type approved by the Board.

Explanation: Doors leading to hazardous areas, such as stairs, fire escapes, boiler rooms, loading platforms, etc., should be identified appropriately and equipped with knurled doorknobs for identification by the visually handicapped. Protrusions in corridors, passageways, etc., should be avoided; if such protrusions are necessary, they should be at least 7 feet from the floor level.

AT LEAST ONE ELEVATOR SHALL BE ACCESSIBLE TO AND USABLE BY THE PHYSICALLY DISABLED AT ALL LEVELS NORMALLY USED BY THE GENERAL PUBLIC.

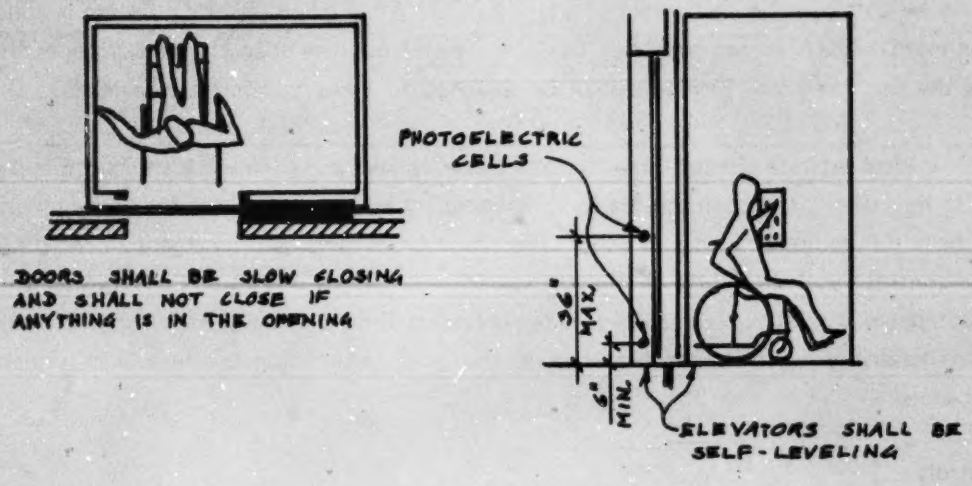

PHOTOELECTRIC CELLS
DOORS SHALL BE SLOW CLOSING AND SHALL NOT CLOSE IF ANYTHING IS IN THE OPENING
36" MAX.
6" MIN.
ELEVATORS SHALL BE SELF-LEVELING

Figure 16. Elevators

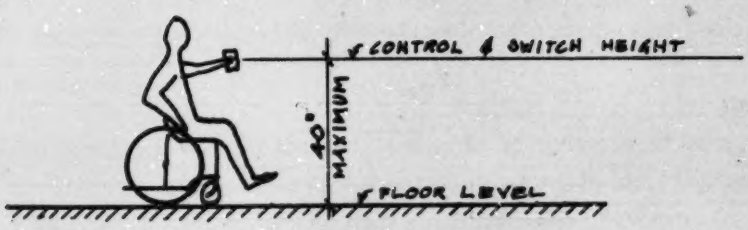


Figure 17. Switch and Control Height

No. 176

AN ACT

Amending the act of September 1, 1965 (P.L. 459, No. 235), entitled "An act requiring that certain buildings and facilities constructed with Commonwealth funds adhere to certain principles, standards, and specifications to make the same accessible to and usable by the physically handicapped, and providing for enforcement," providing for limited exemptions from the provisions of this act, creating an Advisory Board, providing for its powers and duties and adding to the powers and duties of the Secretary of Labor and Industry.

The General Assembly of the Commonwealth of Pennsylvania hereby enacts as follows:

Section 1. Section 1, act of September 1, 1965 (P.L. 459, No. 235), entitled "An act requiring that certain buildings and facilities constructed with Commonwealth funds adhere to certain principles, standards and specifications to make the same accessible to and usable by the physically handicapped, and providing for enforcement," amended October 2, 1974 (P.L. 658, No. 216), is amended to read:

Section 1. Applicability of Standards.
The standards and specifications set forth in this act shall apply to all buildings of assembly, educational institutions and office buildings which are constructed in whole or in part by use of Commonwealth funds, or the funds of any instrumentality of the Commonwealth or which are leased by the Commonwealth or an instrumentality thereof by reason of a lease executed after December 31, 1974 and shall also apply to department stores, theaters, retail stores (and), sports arenas and to restaurants with sit-down, interior dining facilities constructed after the effective date of this amending act: Provided, however, that the provisions of this act shall not apply to any department store, theater, retail store, sports arena and other buildings that are constructed and contain less than 2,800 square feet of usable floor space. All Commonwealth financed or leased buildings and facilities constructed or leased in this Commonwealth shall conform to each of the standards and specifications prescribed herein. All department stores, theaters, retail stores and sports arenas for which contracts for the planning and/or design have been awarded prior to the effective date of this amending act shall be exempt.

Section 2. The act is amended by adding a section to read:

Section 3.1. Advisory Board Guidelines Exemptions
(a) There is hereby created an Advisory Board which shall be composed of five members appointed by the Secretary of Labor and Industry. At least three members of the Advisory Board shall be consumers and shall be public members. All members of the Advisory Board shall serve for a term of two years and until their successors are appointed and qualified. The members of the Advisory Board shall serve without compensation but shall be reimbursed by the Department of Labor and Industry for the necessary and actual expenses incurred in attending the meeting of the Advisory Board and in the performance of their duties under this act. Meetings of the Advisory Board shall be called by the Secretary of Labor and Industry.

(b) The Advisory Board shall review the principles, standards and specifications of this act and the impact of this act on entities affected by its coverage and shall develop guidelines under which exemptions and variances from the provisions of this act may be granted.

(c) The Advisory Board shall review all applications for exemptions and variances from the provisions of this act and shall advise the Secretary of Labor and Industry on whether an exemption or variance should be granted.

(d) The Secretary of Labor and Industry may grant a variance or exemption from the provisions of this act. When determining whether to grant an exemption or variance, the Secretary shall consider the guidelines of the board and its recommendations on the particular applications.

Section 3. This act shall take effect immediately.

(APPROVED – The 9th day of July, A.D. 1976.)